P R O J E C T N O T E

To: Jard Company Inc. Hazard Ranking System Project File

From: John Burton, Weston Solutions, Inc. (WESTON®), Superfund Technical Assessment and Response Team III (START)

Thru: Mr. John F. Kelly, Project Leader, START

Date: 2 October 2013

RE: Source, Surface Soil, and Sediment Sample Sample-Adjusted Contract Required Quantitation Limit Calculations and Form Is
Case 43392; SDG A4B24
TDD No. 13-09-0001; Task No. 0904-48; DC No. A-6871

Introduction

The following Project Note describes the sample-adjusted Contract Required Quantitation Limit (CRQL) calculations for polychlorinated biphenyls (PCBs) analytical results of 19 source samples collected from the Jard Company Inc. property located in Bennington, Bennington County, Vermont. The samples were collected by Weston Solutions, Inc. (WESTON®), Superfund Technical Assessment and Response Team III (START) for the purpose of performing a Site Reassessment in support of a U.S. Environmental Protection Agency (EPA) Hazard Ranking System (HRS)/National Priorities List (NPL) Documentation Record. The analytical data were validated at a Tier II level according to Region I EPA-NE Data Validation Functional Guidelines for Evaluating Environmental Analyses and the USEPA CLP National Functional Guidelines for Superfund Organic Methods.

Table 1 of this Project Note summarizes the validated analytical results for PCB analysis. Table 2 of this Project Note reports the sample-adjusted CRQL for each sample, which is either the CRQL or a raised value due to the dilution factor, percent solids, sample volume, and/or final volume. Tables 1 and 2 are included in *Attachment A* of this Project Note. The memorandum detailing the original validated results is included in *Attachment B* of this Project Note.

Copies of the pertinent Form I's have been included in *Attachment C* of this Project Note. CRQLs are listed in the *USEPA Contract Laboratory Program Statement of Work for Organics Analysis, Multi-media Multi-concentration, SOM01.1,* and the *Modifications Updating SOM01.1 to SOM01.2*, for PCBs, the pertinent portions of which are included in *Attachment D* of this Project Note.

Sample-adjusted CRQL Determination for Soil/Source and Sediment Samples:

The sample-adjusted CRQLs were calculated as follows: the PCB sample-adjusted CRQLs [in micrograms per kilogram (µg/Kg)] was calculated by multiplying the CRQL (in µg/Kg) for the substance by the method extraction weight [30 grams (g) nominally], dividing this result by the dry weight extracted (in g), and multiplying this result by the dilution factor. The dry weight extracted (in g) is calculated by multiplying the percent solids, expressed as a decimal, of the sample (100% - percent moisture) by the wet weight extracted (in g) of the sample. The percent moisture, wet weight extracted, and dilution factors are reported on the Form I for the sample.

$$\text{Sample-adjusted CRQL (µg/Kg)} = \frac{[\text{CRQL} \times 30\text{g}]}{[\%\text{S} \times W_W]} \times \text{DF}$$

CRQL = in µg/Kg
W_W = wet weight extracted (g)
%S = Percent Solids (in decimal form)
DF = Dilution Factor

Attachment A

Tables

SITE: JARD COMPANY INC
CASE: 43392 SDG: A4B24
LABORATORY: CHEMTECH CONSULTING GROUP

DATA SUMMARY TABLE 1
AROCLOR IN SOIL ANALYSIS
µg/Kg

		SAMPLE NUMBER	**A4B24**	**A4B25**	**A4B26**	**A4B27**	**A4B28**	**A4B29**	**A4B33**
		SAMPLE LOCATION	**SO-07**	**SO-14**	**SO-200**	**SO-21**	**SO-22**	**SO-23**	**SO-62**
		STATION LOCATION	**JCS-008**	**JCS-015**	**JCS-475**	**JCS-024**	**JCS-025**	**JCS-026**	**JCS-076**
		LABORATORY NUMBER	**E1902-01**	**E1902-02**	**E1902-03**	**E1902-04**	**E1902-05**	**E1902-06**	**E1902-09**
COMPOUND	**MDL**	**CRQL**							
Aroclor-1016	**2.6**	**33**	41 U	37 U	37 U	36 U	36 U	36 U	38 U
Aroclor-1221	**7.8**	**33**	41 U	37 U	37 U	36 U	36 U	36 U	38 U
Aroclor-1232	**1.3**	**33**	41 U	37 U	37 U	36 U	36 U	36 U	38 U
Aroclor-1242	**6.2**	**33**	41 U	**120**	**130**	**110 J**	**140**	36 U	**180**
Aroclor-1248	**2.7**	**33**	41 U	37 U	37 U	36 U	36 U	36 U	38 U
Aroclor-1254	**3.2**	**33**	41 U	37 U	37 U	36 U	36 U	36 U	38 U
Aroclor-1260	**3.2**	**33**	41 U	37 U	37 U	36 U	36 U	36 U	38 U
Aroclor-1262	**14**	**33**	41 U	37 U	37 U	36 U	36 U	36 U	38 U
Aroclor-1268	**6.6**	**33**	41 U	37 U	37 U	36 U	36 U	36 U	38 U
		DILUTION FACTOR	1.0	1.0	1.0	1.0	1.0	1.0	1.0
		DATE SAMPLED	4/3/2013	4/3/2013	4/3/2013	4/3/2013	4/3/2013	4/3/2013	4/4/2013
		DATE EXTRACTED	4/19/2013	4/19/2013	4/19/2013	4/19/2013	4/19/2013	4/19/2013	4/19/2013
		DATE ANALYZED	4/25/2013	4/25/2013	4/25/2013	4/25/2013	4/25/2013	4/25/2013	4/25/2013
		SAMPLE WEIGHT (GRAMS)	30	30.1	30.0	30.0	30.0	30.0	30.1
		% SOLID	80.4	88.8	88.4	90.8	91.0	90.6	85.6

NOTES: µg/Kg = micrograms per Kilogram
All results are reported on a Dry Weight Basis.
MDL = Method Detection Limit
CRQL = Contract Required Quantitation Limit
U = Value is Non-Detected.
UJ = Value is Non-Detected, and Detection Limit is Estimated.
J = Value is Estimated.
R = Value is Rejected.
* = Reported value is from diluted analysis.

SITE: JARD COMPANY INC
CASE: 43392 SDG: A4B24
LABORATORY: CHEMTECH CONSULTING GROUP

DATA SUMMARY TABLE 1
AROCLOR IN SOIL ANALYSIS
µg/Kg

		SAMPLE NUMBER	**A4B35**	**A4B17**	**A4B18**	**A4B19**	**A4B20**	**A4B21**	**A4B22**
		SAMPLE LOCATION	**SO-65**	**SB-01**	**SB-03**	**SB-05**	**SB-06**	**SB-08**	**SB-09**
		STATION LOCATION	**JCS-086**	**JCS-130**	**JCS-136**	**JCS-138**	**JCS-148**	**JCS-153**	**JCS-143**
		LABORATORY NUMBER	**E1902-10**	**E1902-13**	**E1902-14**	**E1902-15**	**E1902-16**	**E1902-17**	**E1902-18**
COMPOUND	**MDL**	**CRQL**							
Aroclor-1016	**2.6**	**33**	38 U	3900 U	3500 U	37 U	36 U	3600 U	36 U
Aroclor-1221	**7.8**	**33**	38 U	3900 U	3500 U	37 U	36 U	3600 U	36 U
Aroclor-1232	**1.3**	**33**	38 U	3900 U	3500 U	37 U	36 U	3600 U	36 U
Aroclor-1242	**6.2**	**33**	38 U	**280000 ***	**4800000 ***	**820 ***	**1900 ***	**730000 ***	**40000 ***
Aroclor-1248	**2.7**	**33**	38 U	3900 U	3500 U	37 U	36 U	3600 U	36 U
Aroclor-1254	**3.2**	**33**	38 U	3900 U	3500 U	37 U	36 U	3600 U	36 U
Aroclor-1260	**3.2**	**33**	38 U	3900 U	3500 U	37 U	36 U	3600 U	36 U
Aroclor-1262	**14**	**33**	38 U	3900 U	3500 U	37 U	36 U	3600 U	36 U
Aroclor-1268	**6.6**	**33**	38 U	3900 U	3500 U	37 U	36 U	3600 U	36 U
		DILUTION FACTOR	1.0	100 / 1000*	100 / 2000*	1 / 2*	1 / 10*	100 / 2000*	1 / 100*
		DATE SAMPLED	4/5/2013	4/1/2013	4/1/2013	4/8/2013	4/8/2013	4/8/2013	4/8/2013
		DATE EXTRACTED	4/19/2013	4/19/2013	4/19/2013	4/19/2013	4/19/2013	4/19/2013	4/19/2013
		DATE ANALYZED	4/25/2013	4/26/2013	4/26/2013	4/26/2013	4/26/2013	4/26/2013	4/26/2013
		SAMPLE WEIGHT (GRAMS)	30	30	30	30.1	30.1	30.1	30.1
		% SOLID	85.7	84.1	93.5	90.2	90.7	91.0	92.4

NOTES: µg/Kg = micrograms per Kilogram
All results are reported on a Dry Weight Basis.
MDL = Method Detection Limit
CRQL = Contract Required Quantitation Limit
U = Value is Non-Detected.
UJ = Value is Non-Detected, and Detection Limit is Estimated.
J = Value is Estimated.
R = Value is Rejected.
* = Reported value is from diluted analysis.

SITE: JARD COMPANY INC
CASE: 43392 SDG: A4B24
LABORATORY: CHEMTECH CONSULTING GROUP

DATA SUMMARY TABLE 1
AROCLOR IN SOIL ANALYSIS
µg/Kg

		SAMPLE NUMBER	**A4B23**	**A4B30**	**A4B31**	**A4B32**	**A4B34**		
		SAMPLE LOCATION	**SO-06**	**SO-34**	**SO-36**	**SO-46**	**SO-64**		
		STATION LOCATION	**JCS-006**	**JCS-046**	**JCS-048**	**JCS-061**	**JCS-183**		
		LABORATORY NUMBER	**E1902-19**	**E1902-20**	**E1902-21**	**E1902-22**	**E1902-23**		
COMPOUND	**MDL**	**CRQL**							
Aroclor-1016	**2.6**	**33**	39 U	37 U	39 U	38 U	38 U		
Aroclor-1221	**7.8**	**33**	39 U	37 U	39 U	38 U	38 U		
Aroclor-1232	**1.3**	**33**	39 U	37 U	39 U	38 U	38 U		
Aroclor-1242	**6.2**	**33**	**150 J**	**320**	**1600 ***	**1200 ***	**280 J**		
Aroclor-1248	**2.7**	**33**	39 U	37 U	39 U	38 U	38 U		
Aroclor-1254	**3.2**	**33**	39 U	37 U	39 U	38 U	38 U		
Aroclor-1260	**3.2**	**33**	39 U	37 U	39 U	38 U	38 U		
Aroclor-1262	**14**	**33**	39 U	37 U	39 U	38 U	38 U		
Aroclor-1268	**6.6**	**33**	39 U	37 U	39 U	38 U	38 U		
		DILUTION FACTOR	1.0	1.0	1 / 10*	1 / 10*	1.0		
		DATE SAMPLED	4/3/2013	4/4/2013	4/4/2013	4/4/2013	4/4/2013		
		DATE EXTRACTED	4/19/2013	4/19/2013	4/19/2013	4/19/2013	4/22/2013		
		DATE ANALYZED	4/25/2013	4/25/2013	4/26/2013	4/26/2013	4/25/2013		
		SAMPLE WEIGHT (GRAMS)	30	30	30	30	30.1		
		% SOLID	85.3	88.6	84.9	88.8	85.6		

NOTES: µg/Kg = micrograms per Kilogram
All results are reported on a Dry Weight Basis.
MDL = Method Detection Limit
CRQL = Contract Required Quantitation Limit
U = Value is Non-Detected.
UJ = Value is Non-Detected, and Detection Limit is Estimated.
J = Value is Estimated.
R = Value is Rejected.
* = Reported value is from diluted analysis.

SITE: JARD COMPANY INC
CASE: 43392 SDG: A4B24
LABORATORY: CHEMTECH CONSULTING GROUP

DATA SUMMARY TABLE 2
SAMPLE ADJUSTED CRQL
µg/Kg

		SAMPLE NUMBER	**A4B24**	**A4B25**	**A4B26**	**A4B27**	**A4B28**	**A4B29**	**A4B33**
		SAMPLE LOCATION	**SO-07**	**SO-14**	**SO-200**	**SO-21**	**SO-22**	**SO-23**	**SO-62**
		STATION LOCATION	**JCS-008**	**JCS-015**	**JCS-475**	**JCS-024**	**JCS-025**	**JCS-026**	**JCS-076**
		LABORATORY NUMBER	**E1902-01**	**E1902-02**	**E1902-03**	**E1902-04**	**E1902-05**	**E1902-06**	**E1902-09**
COMPOUND	**MDL**	**CRQL**							
Aroclor-1016	**2.6**	**33**	41	37	37	36	36	36	38
Aroclor-1221	**7.8**	**33**	41	37	37	36	36	36	38
Aroclor-1232	**1.3**	**33**	41	37	37	36	36	36	38
Aroclor-1242	**6.2**	**33**	41	37	37	36	36	36	38
Aroclor-1248	**2.7**	**33**	41	37	37	36	36	36	38
Aroclor-1254	**3.2**	**33**	41	37	37	36	36	36	38
Aroclor-1260	**3.2**	**33**	41	37	37	36	36	36	38
Aroclor-1262	**14**	**33**	41	37	37	36	36	36	38
Aroclor-1268	**6.6**	**33**	41	37	37	36	36	36	38
		DILUTION FACTOR	1.0	1.0	1.0	1.0	1.0	1.0	1.0
		DATE SAMPLED	4/3/2013	4/3/2013	4/3/2013	4/3/2013	4/3/2013	4/3/2013	4/4/2013
		DATE EXTRACTED	4/19/2013	4/19/2013	4/19/2013	4/19/2013	4/19/2013	4/19/2013	4/19/2013
		DATE ANALYZED	4/25/2013	4/25/2013	4/25/2013	4/25/2013	4/25/2013	4/25/2013	4/25/2013
		SAMPLE WEIGHT (GRAMS)	30	30.1	30.0	30.0	30.0	30.0	30.1
		% SOLID	80.4	88.8	88.4	90.8	91.0	90.6	85.6

NOTES: µg/Kg = micrograms per Kilogram
All results are reported on a Dry Weight Basis.
MDL = Method Detection Limit
CRQL = Contract Required Quantitation Limit
U = Value is Non-Detected.
UJ = Value is Non-Detected, and Detection Limit is Estimated.
J = Value is Estimated.
R = Value is Rejected.
* = Reported value is from diluted analysis.

SITE: JARD COMPANY INC
CASE: 43392 SDG: A4B24
LABORATORY: CHEMTECH CONSULTING GROUP

DATA SUMMARY TABLE 2
SAMPLE ADJUSTED CRQL
µg/Kg

		SAMPLE NUMBER	**A4B35**	**A4B17**	**A4B18**	**A4B19**	**A4B20**	**A4B21**	**A4B22**
		SAMPLE LOCATION	**SO-65**	**SB-01**	**SB-03**	**SB-05**	**SB-06**	**SB-08**	**SB-09**
		STATION LOCATION	**JCS-086**	**JCS-130**	**JCS-136**	**JCS-138**	**JCS-148**	**JCS-153**	**JCS-143**
		LABORATORY NUMBER	**E1902-10**	**E1902-13**	**E1902-14**	**E1902-15**	**E1902-16**	**E1902-17**	**E1902-18**
COMPOUND	**MDL**	**CRQL**							
Aroclor-1016	**2.6**	**33**	38	3900	3500	37	36	3600	36
Aroclor-1221	**7.8**	**33**	38	3900	3500	37	36	3600	36
Aroclor-1232	**1.3**	**33**	38	3900	3500	37	36	3600	36
Aroclor-1242	**6.2**	**33**	38	39000 *	71000 *	73 *	360 *	72000 *	3600 *
Aroclor-1248	**2.7**	**33**	38	3900	3500	37	36	3600	36
Aroclor-1254	**3.2**	**33**	38	3900	3500	37	36	3600	36
Aroclor-1260	**3.2**	**33**	38	3900	3500	37	36	3600	36
Aroclor-1262	**14**	**33**	38	3900	3500	37	36	3600	36
Aroclor-1268	**6.6**	**33**	38	3900	3500	37	36	3600	36
		DILUTION FACTOR	1.0	100 / 1000*	100 / 2000*	1 / 2*	1 / 10*	100 / 2000*	1 / 100*
		DATE SAMPLED	4/5/2013	4/1/2013	4/1/2013	4/8/2013	4/8/2013	4/8/2013	4/8/2013
		DATE EXTRACTED	4/19/2013	4/19/2013	4/19/2013	4/19/2013	4/19/2013	4/19/2013	4/19/2013
		DATE ANALYZED	4/25/2013	4/26/2013	4/26/2013	4/26/2013	4/26/2013	4/26/2013	4/26/2013
		SAMPLE WEIGHT (GRAMS)	30	30	30	30.1	30.1	30.1	30.1
		% SOLID	85.7	84.1	93.5	90.2	90.7	91.0	92.4

NOTES: µg/Kg = micrograms per Kilogram
All results are reported on a Dry Weight Basis.
MDL = Method Detection Limit
CRQL = Contract Required Quantitation Limit
U = Value is Non-Detected.
UJ = Value is Non-Detected, and Detection Limit is Estimated.
J = Value is Estimated.
R = Value is Rejected.
* = Reported value is from diluted analysis.

SITE: JARD COMPANY INC
CASE: 43392 SDG: A4B24
LABORATORY: CHEMTECH CONSULTING GROUP

DATA SUMMARY TABLE 2
SAMPLE ADJUSTED CRQL
µg/Kg

		SAMPLE NUMBER	**A4B23**	**A4B30**	**A4B31**	**A4B32**	**A4B34**		
		SAMPLE LOCATION	**SO-06**	**SO-34**	**SO-36**	**SO-46**	**SO-64**		
		STATION LOCATION	**JCS-006**	**JCS-046**	**JCS-048**	**JCS-061**	**JCS-183**		
		LABORATORY NUMBER	**E1902-19**	**E1902-20**	**E1902-21**	**E1902-22**	**E1902-23**		
COMPOUND	**MDL**	**CRQL**							
Aroclor-1016	**2.6**	**33**	39	37	39	38	38		
Aroclor-1221	**7.8**	**33**	39	37	39	38	38		
Aroclor-1232	**1.3**	**33**	39	37	39	38	38		
Aroclor-1242	**6.2**	**33**	39	37	390 *	370 *	38		
Aroclor-1248	**2.7**	**33**	39	37	39	38	38		
Aroclor-1254	**3.2**	**33**	39	37	39	38	38		
Aroclor-1260	**3.2**	**33**	39	37	39	38	38		
Aroclor-1262	**14**	**33**	39	37	39	38	38		
Aroclor-1268	**6.6**	**33**	39	37	39	38	38		
		DILUTION FACTOR	1.0	1.0	1 / 10*	1 / 10*	1.0		
		DATE SAMPLED	4/3/2013	4/4/2013	4/4/2013	4/4/2013	4/4/2013		
		DATE EXTRACTED	4/19/2013	4/19/2013	4/19/2013	4/19/2013	4/22/2013		
		DATE ANALYZED	4/25/2013	4/25/2013	4/26/2013	4/26/2013	4/25/2013		
		SAMPLE WEIGHT (GRAMS)	30	30	30	30	30.1		
		% SOLID	85.3	88.6	84.9	88.8	85.6		

NOTES: µg/Kg = micrograms per Kilogram
All results are reported on a Dry Weight Basis.
MDL = Method Detection Limit
CRQL = Contract Required Quantitation Limit
U = Value is Non-Detected.
UJ = Value is Non-Detected, and Detection Limit is Estimated.
J = Value is Estimated.
R = Value is Rejected.
* = Reported value is from diluted analysis.

Attachment B

Data Validation Memorandum
Case No. 43392; SDG No. A4B24

Weston Solutions, Inc.
East Division
3 Riverside Drive
Andover, Massachusetts 01810
978-552-2100 - Fax 978-658-0700

SUPERFUND TECHNICAL ASSESSMENT AND RESPONSE TEAM
EPA CONTRACT EP-W-05-042

21 August 2013
20114-081-998-0850-49
DC No. A-6844

Ms. Martha Bosworth
U.S. EPA Region I - New England
Emergency Planning & Response Branch
5 Post Office Square, Suite 100
Mail Code OSRR07-2
Boston, Massachusetts 02109-3912

Subject: Case No. 43392; SDG No. A4B24
ChemTech Consulting Group (Chem)
Jard Company Inc
Bennington, Vermont
AROCLOR: 19/Soil/A4B24-A4B29, A4B33, A4B35, A4B17-A4B23, A4B30-A4B32, A4B34
(Field Duplicates A4B25/A4B26)
5/Aqueous Equipment Blanks/A4B02, A4B05, A4B06, A4B08, A4B10
2/Soil PEs/A4B56, A4B57
CERCLIS No. VTD048141741
TDD No. 12-10-0008, Task No. 0850-49

Dear Ms. Bosworth:

A Tier II validation was performed on the organic analytical data for 19 soil samples and five aqueous equipment (rinsate) blanks collected by WESTON START at the Jard Company Inc site in Bennington, Vermont, and for two PE samples obtained from EPA Region I. *Italicized sample ID numbers in the list above are associated with samples in this SDG, but reported in another SDG.* The samples were analyzed under CLP following SOW SOM01.2 as low/medium level for Aroclor compounds. The data were evaluated as Tier II level in accordance with the "Region I EPA-NE Data Validation Functional Guidelines for Evaluating Environmental Analyses" dated December 1996, and the USEPA CLP National Functional Guidelines for Superfund Organic Methods, and were based on the following parameters:

	•	Overall Evaluation of Data and Potential Usability Issues.
*	•	Data Completeness.
*	•	Preservation and Technical Holding Times.
*	•	GC/MS and GC/ECD Instrument Performance Checks.
*	•	IC and CC.
*	•	Blanks.
	•	Surrogate Compounds.
NA	•	IS.
*	•	MS/MSD.

*	•	Field Duplicates.
NA	•	Sensitivity Check (MDL Study or LFB).
*	•	PE Samples/Accuracy Check.
	•	Target Compound Identification.
*	•	Sample Quantitation and Reported Quantitation Limits.
NA	•	TICs.
*	•	SVOC and PEST/PCB Cleanup.
*	•	System Performance.
NA	•	SEDD/ADR.

* = No qualifications will be applied based on this parameter.

Table I summarizes overall evaluation of the data with reference to the DQO and potential usability issues. Qualified data are summarized in Data Summary Table 1.

Overall Evaluation of Data and Potential Usability Issues

See Table I for overall evaluation of data and potential usability issues.

Preservation and Technical Holding Times

Aroclor samples A4B17-A4B18, A4B23-A4B29, and A4B30-A4B34 were extracted between 2 and 4 days beyond the holding time specified in SOM01.2. Based upon the holding times articulated in SW-846, the Chlorinated Biphenyl Congener Statement of Work CBC01.2, and in consultation with USEPA Region I Quality Assurance chemists, the holding time for Aroclors has been established as up to 1 year. The positive and non-detected Aroclor results will not be qualified.

Surrogate Compounds

AROCLORS:

Samples in which two or more Aroclor surrogate recoveries did not meet criteria are summarized in the following table:

Sample No.	No. of Surrogates Out	Action Pos/ND
A4B17	4	Accept
A4B17DL	4	Accept
A4B18	4	Accept
A4B18DL	4	Accept
A4B21	4	Accept
A4B21DL	4	Accept

Sample No.	No. of Surrogates Out	Action Pos/ND
A4B22	1	None

Sample results will be qualified as indicated above.

PE Samples/Accuracy Check

The criteria used by START for qualification of sample data based on the PE sample results are as follows:

PE Score	Action	
	Non-Detects	Positive Results
In Window	Accept	Accept
Warning Low/High	Accept	Accept
Action Low	Reject (R)	Estimate (J)
Action High	Accept	Estimate (J)
TCL Misses	Reject (R)	Varies
TCL Contaminants	Accept	Varies
TIC Misses	Varies	Varies
TIC Contaminants	Varies	Varies

All non-compliant PE scores were investigated by checking raw data, calculations, calibrations, possible matrix interferences, and blank contamination. Unless otherwise noted, all results reported by the laboratory were found to be correct, based on the data generated by the laboratory.

The laboratory properly identified and quantified the soil Aroclor-1242 PE sample (A4B56, PE No. ASX0184). No qualifications were applied.

The laboratory properly identified and quantified the soil Aroclor-1260 PE sample (A4B57, PE No. AS1507). No qualifications were applied.

Target Compound Identification

The dual column correlation did not meet %D confirmation criteria for the following Aroclor compounds:

Sample	Compound	% D	Action
A4B27	Aroclor-1242	72.7	J
A4B23	Aroclor-1242	26.7	J
A4B34	Aroclor-1242	46.4	J

Actions:

J = Estimate results when %D >25 but <100 for pesticides or %D >25 but <500 for PCBs.
R = Reject results when %D >100 for pesticides or %D >500 for PCBs.
U = Qualify result as undetected at the CRQL when %D >100 for pesticides or %D >500 for PCBs, and both results are less than the CRQL.

Sample results have been qualified as indicated above.

Please contact the undersigned at (978) 552-2100 if you have any questions or need further information.

Very truly yours,

WESTON SOLUTIONS, INC.
Region I START

William W. Mahany
Principal Project Scientist

John Burton
Lead Chemist

email cc: Jennifer Feranda (CLP PO - Region II) - DV Letter w/Data Tables, and ORDA Form only – Feranda.jennifer@epa.gov

Attachments:
Table I: Overall Evaluation of Soil Data
Data Summary Key
Acronym List
Data Summary Table 1
DV Worksheets
PE Sample Score Reports (included in DV worksheets)
Field Sampling Notes (including a copy of sampler's COC Records)
CSF Audit (DC-2 Form) - Evidence Audit Photocopy (Including CSF Receipt/Transfer Form)
DQO Summary Form

S:\12100008\Analytical\Case_43392\A4B24\A4B24_val_.doc

TABLE I

JARD COMPANY INC
Case No. 43392; SDG No. A4B24

Overall Evaluation of Soil Data

AROCLORs					
DQO (list all DQOs)	Sampling and/or Analytical Method Appropriate Yes or No	Measurement Error		Sampling Variability**	Potential Usability Issues
		Analytical Error	Sampling Error*		
1. To obtain sufficient data from surface and subsurface soil samples collected at the Jard Company site for PCB (Aroclor) analysis, to document potential source areas located on and off the property, and to document contamination in the soil and sediment associated with source areas located on the property.	*Analytical Method:* Yes, SOM01.2 *Sampling Method:* Yes, Hand Augers, and Stainless Steel Scoops.	Refer to qualifications in attached Data Summary Table 1. 1	Refer to qualifications in attached Data Summary Table 1.		1. Positive Aroclor 1242 results in samples A4B23, A4B27, and A4B34 were estimated (J) due to poor dual-column correlation.

* The evaluation of "sampling error" cannot be completely assessed in data validation.
** Sampling variability is not assessed in data validation.

DATA SUMMARY KEY
ORGANIC DATA VALIDATION

J	=	The associated numerical value is an estimated quantity.
R	=	The data are unusable (compound may or may not be present). Resampling and reanalysis are necessary for verification. The R replaces the numerical value or SQL.
U	=	The compound was analyzed for, but not detected. The associated numerical value is the SQL or the adjusted SQL.
UJ	=	The compound was analyzed for, but not detected. The associated numerical value is the estimated SQL.
EB	=	The compound was identified in an aqueous EB that was used to assess field contamination associated with soil/sediment samples.
TB	=	The compound was identified in an aqueous TB that was used to assess field contamination associated with soil/sediment samples.
BB	=	The compound was identified in an aqueous BB that was used to assess field contamination associated with soil/sediment samples.

ACRONYM LIST
ORGANIC DATA VALIDATION

AQ	aqueous
AQ FB	aqueous field blank
BB	Bottle Blank
B/N	base/neutral compound
°C	degrees Celsius
CC	Continuing Calibration
CCV	Continuing Calibration Verification
CLP	Contract Laboratory Program
COC	Chain-of-Custody record
COR	Contracting Officer Representative
CRQL	Contract Required Quantitation Limit
CSF	Complete SDG File
%D	percent difference
DAS	Delivery of Analytical Services
DMC	Deuterated Monitoring Compound
DQO	Data Quality Objective
DV	Data Validation
DW	drinking water
EB	Equipment Blank
EPA	Environmental Protection Agency
GC/ECD	Gas Chromatograph/Electron Capture Detector
GC/MS	Gas Chromatograph/Mass Spectrometry
GW	groundwater
IC	Initial Calibration
IS	Internal Standard
kg	kilogram
L	liter
LCS	Laboratory Control Sample
LFB	Laboratory Fortified Blank
MDL	Method Detection Limit
µg	microgram
MS	Matrix Spike
MSD	Matrix Spike Duplicate
NA	Not Applicable
ND	non-detected result
ng	nanogram
NERL	New England Regional Laboratory
OSC	On-Scene Coordinator
ORDA	Organic Regional Data Assessment
PAH	polynuclear aromatic hydrocarbon
PCB	polychlorinated biphenyl compound
PEST/PCB	pesticide/polychlorinated biphenyl compound
PE	Performance Evaluation
Pos	positive result
QC	Quality Control
%R	percent recovery
RPD	Relative Percent Difference
RRF	Relative Response Factor
RSD	Relative Standard Deviation
SDG	Sample Delivery Group
SOW	Statement of Work
SQL	Sample Quantitation Limit
S/S	soil/sediment
S/S (m)	soil/sediment medium level
START	Superfund Technical Assessment and Response Team
SVOC	semivolatile organic compound
SW	surface water
TB	Trip Blank
TCL	Target Compound List
TDD	Technical Direction Document
TIC	Tentatively Identified Compound
TR	Traffic Report
VOC	volatile organic compound
WESTON	Weston Solutions, Inc.

SITE: JARD COMPANY INC
CASE: 43392 SDG: A4B24
LABORATORY: CHEMTECH CONSULTING GROUP

DATA SUMMARY TABLE 1
AROCLOR IN SOIL ANALYSIS
µg/Kg

		SAMPLE NUMBER	A4B24	A4B25	A4B26	A4B27	A4B28	A4B29	A4B33
		SAMPLE LOCATION	SO-07	SO-14	SO-200	SO-21	SO-22	SO-23	SO-62
		STATION LOCATION	JCS-008	JCS-015	JCS-475	JCS-024	JCS-025	JCS-026	JCS-076
		LABORATORY NUMBER	E1902-01	E1902-02	E1902-03	E1902-04	E1902-05	E1902-06	E1902-09
COMPOUND	MDL	CRQL							
Aroclor-1016	2.6	33	41 U	37 U	37 U	36 U	36 U	36 U	38 U
Aroclor-1221	7.8	33	41 U	37 U	37 U	36 U	36 U	36 U	38 U
Aroclor-1232	1.3	33	41 U	37 U	37 U	36 U	36 U	36 U	38 U
Aroclor-1242	6.2	33	41 U	120	130	110 J	140	36 U	180
Aroclor-1248	2.7	33	41 U	37 U	37 U	36 U	36 U	36 U	38 U
Aroclor-1254	3.2	33	41 U	37 U	37 U	36 U	36 U	36 U	38 U
Aroclor-1260	3.2	33	41 U	37 U	37 U	36 U	36 U	36 U	38 U
Aroclor-1262	14	33	41 U	37 U	37 U	36 U	36 U	36 U	38 U
Aroclor-1268	6.6	33	41 U	37 U	37 U	36 U	36 U	36 U	38 U
		DILUTION FACTOR	1.0	1.0	1.0	1.0	1.0	1.0	1.0
		DATE SAMPLED	4/3/2013	4/3/2013	4/3/2013	4/3/2013	4/3/2013	4/3/2013	4/4/2013
		DATE EXTRACTED	4/19/2013	4/19/2013	4/19/2013	4/19/2013	4/19/2013	4/19/2013	4/19/2013
		DATE ANALYZED	4/25/2013	4/25/2013	4/25/2013	4/25/2013	4/25/2013	4/25/2013	4/25/2013
		SAMPLE WEIGHT (GRAMS)	30	30.1	30.0	30.0	30.0	30.0	30.1
		% SOLID	80.4	88.8	88.4	90.8	91.0	90.6	85.6

NOTES: µg/Kg = micrograms per Kilogram
All results are reported on a Dry Weight Basis.
MDL = Method Detection Limit
CRQL = Contract Required Quantitation Limit
U = Value is Non-Detected.
UJ = Value is Non-Detected, and Detection Limit is Estimated.
J = Value is Estimated.
R = Value is Rejected.
* = Reported value is from diluted analysis.

SITE: JARD COMPANY INC
CASE: 43392 SDG: A4B24
LABORATORY: CHEMTECH CONSULTING GROUP

DATA SUMMARY TABLE 1
AROCLOR IN SOIL ANALYSIS
µg/Kg

		SAMPLE NUMBER	A4B35	A4B17	A4B18	A4B19	A4B20	A4B21	A4B22
		SAMPLE LOCATION	SO-65	SB-01	SB-03	SB-05	SB-06	SB-08	SB-09
		STATION LOCATION	JCS-086	JCS-130	JCS-136	JCS-138	JCS-148	JCS-153	JCS-143
		LABORATORY NUMBER	E1902-10	E1902-13	E1902-14	E1902-15	E1902-16	E1902-17	E1902-18
COMPOUND	MDL	CRQL							
Aroclor-1016	2.6	33	38 U	3900 U	3500 U	37 U	36 U	3600 U	36 U
Aroclor-1221	7.8	33	38 U	3900 U	3500 U	37 U	36 U	3600 U	36 U
Aroclor-1232	1.3	33	38 U	3900 U	3500 U	37 U	36 U	3600 U	36 U
Aroclor-1242	6.2	33	38 U	280000 *	4800000 *	820 *	1900 *	730000 *	40000 *
Aroclor-1248	2.7	33	38 U	3900 U	3500 U	37 U	36 U	3600 U	36 U
Aroclor-1254	3.2	33	38 U	3900 U	3500 U	37 U	36 U	3600 U	36 U
Aroclor-1260	3.2	33	38 U	3900 U	3500 U	37 U	36 U	3600 U	36 U
Aroclor-1262	14	33	38 U	3900 U	3500 U	37 U	36 U	3600 U	36 U
Aroclor-1268	6.6	33	38 U	3900 U	3500 U	37 U	36 U	3600 U	36 U
		DILUTION FACTOR	1.0	100 / 1000*	100 / 2000*	1 / 2*	1 / 10*	100 / 2000*	1 / 100*
		DATE SAMPLED	4/5/2013	4/1/2013	4/1/2013	4/8/2013	4/8/2013	4/8/2013	4/8/2013
		DATE EXTRACTED	4/19/2013	4/19/2013	4/19/2013	4/19/2013	4/19/2013	4/19/2013	4/19/2013
		DATE ANALYZED	4/25/2013	4/26/2013	4/26/2013	4/26/2013	4/26/2013	4/26/2013	4/26/2013
		SAMPLE WEIGHT (GRAMS)	30	30	30	30.1	30.1	30.1	30.1
		% SOLID	85.7	84.1	93.5	90.2	90.7	91.0	92.4

NOTES: µg/Kg = micrograms per Kilogram
All results are reported on a Dry Weight Basis.
MDL = Method Detection Limit
CRQL = Contract Required Quantitation Limit
U = Value is Non-Detected.
UJ = Value is Non-Detected, and Detection Limit is Estimated.
J = Value is Estimated.
R = Value is Rejected.
* = Reported value is from diluted analysis.

SITE: JARD COMPANY INC
CASE: 43392 SDG: A4B24
LABORATORY: CHEMTECH CONSULTING GROUP

DATA SUMMARY TABLE 1
AROCLOR IN SOIL ANALYSIS
µg/Kg

		SAMPLE NUMBER	A4B23	A4B30	A4B31	A4B32	A4B34		
		SAMPLE LOCATION	SO-06	SO-34	SO-36	SO-46	SO-64		
		STATION LOCATION	JCS-006	JCS-046	JCS-048	JCS-061	JCS-183		
		LABORATORY NUMBER	E1902-19	E1902-20	E1902-21	E1902-22	E1902-23		
COMPOUND	MDL	CRQL							
Aroclor-1016	2.6	33	39 U	37 U	39 U	38 U	38 U		
Aroclor-1221	7.8	33	39 U	37 U	39 U	38 U	38 U		
Aroclor-1232	1.3	33	39 U	37 U	39 U	38 U	38 U		
Aroclor-1242	6.2	33	150 J	320	1600 *	1200 *	280 J		
Aroclor-1248	2.7	33	39 U	37 U	39 U	38 U	38 U		
Aroclor-1254	3.2	33	39 U	37 U	39 U	38 U	38 U		
Aroclor-1260	3.2	33	39 U	37 U	39 U	38 U	38 U		
Aroclor-1262	14	33	39 U	37 U	39 U	38 U	38 U		
Aroclor-1268	6.6	33	39 U	37 U	39 U	38 U	38 U		
		DILUTION FACTOR	1.0	1.0	1 / 10*	1 / 10*	1.0		
		DATE SAMPLED	4/3/2013	4/4/2013	4/4/2013	4/4/2013	4/4/2013		
		DATE EXTRACTED	4/19/2013	4/19/2013	4/19/2013	4/19/2013	4/22/2013		
		DATE ANALYZED	4/25/2013	4/25/2013	4/26/2013	4/26/2013	4/25/2013		
		SAMPLE WEIGHT (GRAMS)	30	30	30	30	30.1		
		% SOLID	85.3	88.6	84.9	88.8	85.6		

NOTES: µg/Kg = micrograms per Kilogram
All results are reported on a Dry Weight Basis.
MDL = Method Detection Limit
CRQL = Contract Required Quantitation Limit
U = Value is Non-Detected.
UJ = Value is Non-Detected, and Detection Limit is Estimated.
J = Value is Estimated.
R = Value is Rejected.
* = Reported value is from diluted analysis.

REGION I, EPA-NE ORGANIC REGIONAL DATA ASSESSMENT (ORDA)*

Case No.: Y3392 | Site Name: Jard Company INC

SDG No.: AYB2Y | No. of Samples/Matrix: 19/Soil

Lab Name: Chemtech Consulting Group | Validation Contract: WESTON

SOW#/Contract#: SOM01.2 | Validator's Name: Bill Mahany

EPA-NE DV Tier Level: Tier II | Date DP Rec'd by EPA-NE:

TPO/PO: **ACTION ____ FYI ✓ | DV Completion Date: 5/30/13

ANALYTICAL DATA QUALITY SUMMARY

	VOC	SVOC	PEST	ARO
1. Preservation and Contractual Holding Times:	NA	NA	NA	o
2. GC/MS / GC/ECD Instrument Performance Check:				o
3. Initial Calibration:				o
4. Continuing Calibration:				o
5. Blanks:				o
6. DMCs or Surrogate Compounds:				o
7. Internal Standards:			NA	NA
8. Matrix Spike/Matrix Spike Duplicate:				o
9. Sensitivity Check:				o
10. PE samples - Accuracy Check:				o
11. Target Compound Identification:	NA	NA		o
12. Compound Quantitation and Reported QLs:				o
13. Tentatively Identified Compounds:			NA	NA
14. Semivolatile Cleanup/Pesticide/PCB Cleanup:	NA			o
15. Data Completeness:				o
16. Overall Evaluation of Data:				o

o = Data had no problems or were qualified due to minor contractual problems.
m = Data were qualified due to major contractual problems.
z = Data were rejected as unusable due to major contractual problems.

Action Items (z items):

Areas of Concern (m items):

Comments:

*This form assesses the analytical data quality in items of contractual compliance only. It does not assess sampling errors and/or non-contractual analytical issues that affect data quality.

** Check "ACTION" only if contractual defects resulted in reduced payment/data rejection recommendations.

Validator: Bill Mahany | Date: 5/30/13

EPA - NE
Data Validation Worksheet Cover Page - Page 1

Site Name: Jard Company Inc
TDD No.: 12-10-0008
Task No.: 0850

REGION I ORGANIC DATA VALIDATION

The following data package has been validated:

Lab Name: ChemTech Consulting Group
Case No.: 43392
SDG No.: AYB24
No. of Samples/Matrix:

SOW #/Contract #: SOM01.2
Sampling Dates: 4/1, 3, 4, 5, 8, 17
Shipping Dates: 4/17-18/13
Date Rec'd by Lab: 4/18-19/13

Traffic Report Sample Nos: AYB24-B29, B33, B35, AYB17 → B23, B30-32, B34

Trip Blank No.: —
Equipment Blank No: AYB05, B06, B08, B09, B10
Field Duplicate Nos: AYB25/B26
PE Nos: AYB56/B57

The Region I, EPA - NE Data Validation Functional Guidelines for Evaluating Environmental Analyses, revision 12/96 was used to evaluate the data and/or approved modifications to the EPA - NE Functional Guidelines were used to evaluate the data and are attached to this cover page: (attached modified criteria from EPA approved QAPjP or amendment to the QAPjP).

A Tier II or a Tier III evaluation was used to validate the data. If a Tier II validation with a partial Tier III was used, then identify samples, parameters, etc. that received partial Tier III validation:

The data were evaluated based upon the following parameters:

- Overall Evaluation of Data
- Data Completeness (CSF Audit - Tier I)
- Preservation and Technical Holding Times
- GC/MS and GC/ECD Instrument Performance Check
- Initial and Continuing Calibrations
- Blanks
- Surrogate Compounds
- Internal Standards
- Matrix Spike/Matrix Spike Duplicate
- Field Duplicates
- Sensitivity Check
- PE Samples/Accuracy Check
- Target Compound Identification
- Compound Quantitation and Reported Quantitation Limits
-TICs
-Semivolatile and Pesticide/PCB Cleanup
- System Performance

Region I Definitions and Qualfiers:

A - Acceptable Data
J - Numerical value associated with compound is an estimated quantity.
R - The data are rejected as unusable. The R replaces the numerical value or sample quantitation limit.
U - Compound not detected at that numerical sample quantitation limit.
UJ - The sample quantitation limit is an estimated quantity.
TB, EB - Compound detected in aqueous trip blank or aqueous equipment blank associated with soil/sediment samples.

Validator's Name: Bill Mahany Company Name: WESTON Phone Number: 978-552-2100
Date Validation Started: 5/22/13 Date Validation Completed: 5/30/13

EPA - NE
Data Validation Worksheet Cover Page - Page 2

Check if all criteria are met and no hard copy worksheet provided. Indicate NA if worksheet is not applicable to analytical method. Note: There is no standard worksheet for System Performance, however, the validator must document all system performance issues in the Data Validation Memorandum.

VOA/SV Worksheets:

VOA/SV-Pest/PCB	COMPLETE SDG FILE (CSF) AUDIT	NA
VOA/SV-Pest/PCB-I	PRESERVATION AND HOLDING TIMES	@
VOA/SV-II	GC/MS INSTRUMENT PERFORMANCE CHECK (TUNING)	
VOA/SV-III	INITIAL CALIBRATION	
VOA/SV-IV	CONTINUING CALIBRATION	
VOA/SV-Pest/PCB-V-A	BLANK ANALYSIS	
VOA/SV-Pest/PCB-V-B	BLANK ANALYSIS	
VOA-VI	VOA SURROGATE SPIKE RECOVERIES	
SV-VI	SV SURROGATE SPIKE RECOVERIES	
VOA/SV-VII	INTERNAL STANDARD PERFORMANCE	
VOA/SV-Pest/PCB-VIII	MATRIX SPIKE/MATRIX SPIKE DUPLICATE	
VOA/SV-Pest/PCB-IX	FIELD DUPLICATE PRECISION	
VOA/SV-Pest/PCB-X	SENSITIVITY CHECK	NA
VOA/SV-Pest/PCB-XI	ACCURACY CHECK/ PE SCORE SHEETS	@
VOA/SV-Pest/PCB-XII	TARGET COMPOUND IDENTIFICATION	NA
VOA/SV-Pest/PCB-XIII	SAMPLE QUANTITATION	
VOA/SV-XIV	TENTATIVELY IDENTIFIED COMPOUNDS	
VOA/SV-XV	SEMIVOLATILE CLEANUP	
TABLE II - WORKSHEET	OVERALL EVALUATION OF DATA	* ✓

Pest/ARO Worksheets:

VOA/SV-Pest/PCB	COMPLETE SDG FILE (CSF) AUDIT	@
VOA/SV-Pest/PCB-I	PRESERVATION AND HOLDING TIMES	@
Pest/PCB-IIA	GC/ECD INSTRUMENT PERFORMANCE CHECK-RESOLUTION	✓
Pest/PCB-IIB	GC/ECD INSTRUMENT PERFORMANCE CHECK-RETENTION TIMES	✓
Pest/PCB-IIC	GC/ECD INSTRUMENT PERFORMANCE CHECK-ACCURACY CHECK OF INITIAL CALIBRATION	✓
Pest/PCB-IID	GC/ECD INSTRUMENT PERFORMANCE CHECK-PESTICIDE DEGRADATION	✓
Pest/PCB-III	INITIAL CALIBRATION	✓
Pest/PCB-IV	CONTINUING CALIBRATION	✓
VOA/SV-Pest/PCB-V-A	BLANK ANALYSIS	✓
VOA/SV-Pest/PCB-V-B	BLANK ANALYSIS	✓
Pest/PCB-VI	SURROGATE COMPOUNDS: SPIKE RECOVERIES AND RETENTION TIME SHIFT	
Pest/PCB-VII	PESTICIDE CLEANUP	✓
VOA/SV-Pest/PCB-VIII	MATRIX SPIKE/MATRIX SPIKE DUPLICATE	✓
VOA/SV-Pest/PCB-IX	FIELD DUPLICATE PRECISION	✓
VOA/SV-Pest/PCB-X	SENSITIVITY CHECK	NA
VOA/SV-Pest/PCB-XI	ACCURACY CHECK/ PE SCORE SHEETS	@
Pest/PCB-XII	COMPOUND IDENTIFICATION	
VOA/SV-Pest/PCB-XIII	SAMPLE QUANTITATION	
TABLE II - WORKSHEET	OVERALL EVALUATION OF DATA	*

@ - always included
* - See DV Memo

I certify that all criteria were met for the worksheets checked above.

Signature: Wm W 2 Name: Bill Mahany

Date: 5/13

COMPLETE SDG FILE (CSF) AUDIT

Organic Fractions: Aroclor only

Missing Information	Date Lab Contacted	Date Received

Validator: MAHONY Date: 5/22/13

EPA-NE - Data Validation Worksheet
VOA/SV - **Pest/ARO** - 2

Sampler: S. Hilmar Company: WESTON Contacted: Yes (No) Date: _____

1. PRESERVATION AND HOLDING TIMES

Cooler Temp: 5°, 6°, 6°, 6° Documented: Page: 487-90

Circle sample numbers with exceeded technical holding times or omitted preservation.
List all required preservation codes and circle omitted preservation codes.
Circle all exceeded technical holding times.
Identify extraction technique after "# of Days"/(*Extraction Code).

				PEST						ARO					
Sample No. (TR No.)	Matrix	Pres. Code	Date Sampled	Date Extracted	# of Days from Samp. to Ext.	*Ext. Code	Date Analyzed	# of Days from Ext. to Anal.	Action	Date Extracted	# of Days from Samp. to Ext.	*Ext. Code	Date Analyzed	# of Days from Ext. to Anal.	Action
AYB24	Soil	1	4/3/13							4/19/13	16	SOX	4/25/13	6	A*
B25															
B26															
B27															
B28															
B29															
B33			4/4/13								15				
B35			4/5/13								14				
B36	PE		4/17/13				NA				2				
B37											2		4/26/13	7	
AYB17	Soil		4/1/13								18		4/26/13	5	*
B18															*
B19			4/8/13								11				
B20															
B21														4	
B22										4/22/13					
B23			4/3/13							4/19/13	16		4/25/13	6	*
B30			4/4/13								15				
B31													4/26/13	7	
B32															
B34													4/25/13	6	

Preservation Code:
1. Cool @ 4°C (± 2°C)
2. Preserve with HCl to ≤ pH 2.
3. Protect from light.
4. Freeze.
5. Room temperature (avoid excessive heat).
6. Encore sampler (48 hour hold time).

***Extraction Code:**
L/L - Liquid/Liquid
SON - Sonication
SEP - Separatory funnel
SOX - Soxhlet
SPE - Solid Phase Extraction

Action Code:
J - Estimate (J) detected values.
UJ - Estimate (UJ) non-detected values.
R - Reject (R) non-detected values.

A* = 1-yr holding time per EPA QA chemist discussion and SW-846/calcd. reference

Matrix Codes:
AQ - Aqueous
S/S - Soil/Sediment
AQ FB - Aqueous Field Blank

Validator: Mahany Date: 5/28/13

EPA-NE - Data Validation Worksheet
VOA/SV - Pest/ARO - V

V. Rinsate Blank Tabulation - list the applicable rinsate (equipment) blanks below:

Rinsate Blank No.	Sample No.	Equipment Rinsed to Generate the RB	Matrix Applies to:
RB- 01	AY B02	GeoProbe	Soil
RB- 02	B05	Hand Auger	↓
RB- 03	B06	↓	
RB- 05	B08	↓	↓
RB- 07	B10	GeoProbe	
RB-			

Matrix Codes: SS - surface soil
SD - sediment
SO - source soil
SB - soil boring
GW - groundwater
DW - drinking water
SW - surface water

Note: Apply each RB only to the matrix to which it corresponds. For example, apply the hand auger RB to the soil samples, but not to the surface water samples.

If more than one hand auger/soil sample RB was collected, the RBs may be batched and the highest hit from the batch used to determine the action levels. However, if one RB exhibits an unusual amount of contamination, apply this RB to only the associated samples. Do not batch this RB and apply to all samples of the same matrix.

Validator: Mchany

Date: 5/29/13

EPA - NE - Data Validation Worksheet
VOA/SV - Pest/PCB -XI

XI. ACCURACY CHECK (Performance Evaluation Results) - List all analytes that are outside criteria.

SDG No.: AY8Y **Case:** 43392

Are more than one-half the PE analytes within criteria for each parameter? (Yes) No

Always submit this sheet and attach PE score sheets

PE Sample No.	Ampule No.	Parameter	Type of PE	Matrix	Analyte	Conc.	Region I EPA PE Scores*	Samples Affected	Action
AY856	AS1084	SO/1460	single blind	SO	Arsenic	UM	PASS	None	None
857	AS1507	↓	↓	↓	1760	↓	↓		

*For Region I PE indicate the Region I PE Score report result: Action High, Acion Low, TCL Miss, or TCL Contaminant.

Validator: Mahany Date: 5/30/13

PES SCORING EVALUATION REPORT

Lab Name: Chemtech Consulting Group
Contract: EPW11030
SDG No.: A4B24
Lab File ID: PB004938.D
Date Analyzed: 04/25/2013
Decanted: No
Injection Vol. (uL): 1.0
Sulfur Cleanup: No

Case No.: 43392
Matrix: Soil
Date Received: 04/18/2013
Sample Wt./Vol. (g/mL): 30.0 g
Extraction Type: SOXH
GPC Cleanup: No
Dilution Factor: 1.0

Lab Code: CHEM
SAS/Client No.: NA
Lab Sample ID: E1902-11
Date Extracted: 04/19/2013
% Moisture: 0.0
Conc. Extract Vol. (uL): 10000
pH: NA
Units: ug/Kg

Analysis Method: SOM01.2
Scoring Method: SOM01.2
Comments:

CAS No.	Analyte	Laboratory Results		PES Evaluation	
		Concentration	Q		
53469-21-9	Aroclor-1242	870	D	PASS	Within Limits
****	END Main Analytes	**********	****	****	**********
****	END All Analytes	**********	****	****	**********

PES SCORING EVALUATION REPORT

Lab Name: Chemtech Consulting Group
Contract: EPW11030
SDG No.: A4B24
Lab File ID: PB004940.D
Date Analyzed: 04/26/2013
Decanted: No
Injection Vol. (uL): 1.0
Sulfur Cleanup: No

Case No.: 43392
Matrix: Soil
Date Received: 04/18/2013
Sample Wt./Vol. (g/mL): 30.1 g
Extraction Type: SOXH
GPC Cleanup: No
Dilution Factor: 1.0

Lab Code: CHEM
SAS/Client No.: NA
Lab Sample ID: E1902-12
Date Extracted: 04/19/2013
% Moisture: 0.0
Conc. Extract Vol. (uL): 10000
pH: NA
Units: ug/Kg

Analysis Method: SOM01.2
Scoring Method: SOM01.2
Comments:

CAS No.	Analyte	Laboratory Results		PES Evaluation	
		Concentration	Q		
11096-82-5	Aroclor-1260	830	D	PASS	Within Limits
****	END Main Analytes	**********	****	****	**********
****	END All Analytes	**********	****	****	**********

EPA - NE - Data Validation Worksheet
VOA/SV - Pest/PCB - XIII

XIII. SAMPLE QUANTITATION

If no PE, do sample calculation.

Recalculate, from the raw data, the concentration for one positive detect and one reported sample quantitation limit (SQL) for a non-detect in a diluted sample or soil sample per fraction. (Note: Although Section XIII, C 2. a. requires that one calculation for each fraction in each sample be performed, the validator is only required to reproduce an example, for each fraction, of one positive detect and one SQL calculation on this worksheet.)

Fraction		Calculation*	
VOC		Detect:	Non-detect QL:
Sample No.:			
Reported Compound:			
Reported Value:			
Non-detected Compound:			
Reported Quantitation Limit:			
SVOC		Detect:	Non-detect QL:
Sample No.:			
Reported Compound:			
Reported Value:			
Non-detected Compound:			
Reported Quantitation Limit:			
P/PCB		Detect: $\frac{(A_x)(V_t)(DF)(GPC)}{(CF)(V_i)(W_s)(D)}$ (dwf)	Non-detect QL: $33 \times \frac{30}{30.1} \times \frac{1}{.888} = 37.038 = 37 > U$
Sample No.:	A4825		
Reported Compound:	Aroclor 1242		
Reported Value:	120		
Non-detected Compound:	Aroclor 1254		
Reported Quantitation Limit:	37 U		

Detect: V_t = 10,000; V_i = 30.1; $\frac{100 - 11.2}{100} = 0.888$

* - NA for Tier II if PE score is OK.

Do all soil/sediment samples have % solids greater than 30%? Y N If solids <30%, have sample volumes been increased sufficiently to compensate? Y N
If no. list sample numbers_____

Validator: MAHANY

Date: 5/30/13

Ax	Cf	
48395	~~25244750~~	783844
581549	~~1822048~~	1747423
132832	~~673310~~	644519
737521	~~1651330~~	1125786

$$\frac{(48395)(10000)(1)(1)}{(\cancel{25244750}\ 783844)(1)(30.1)(.888)} = \cancel{.7172}\ 23.1$$

581549

$$\frac{(581549)(10000)(1)(1)}{(1747423)(1)(30.1)(.888)} = 124.5$$

$$\frac{132832 \times 10000}{644519 \times 26.7288} = 77.1$$

$$\frac{737521 \times 10000}{1125786 \times 26.7288} = 245.1 \checkmark \quad \cancel{24.517}$$

Avg = 117.5 = 120

All Criteria Met _____

VI. SURROGATE SPIKE RECOVERIES - PESTICIDES/PCBS

List the percent recoveries which do not meet the method QC acceptance criteria.

Sample No.	TCX		DCB		Action	
	Column 1	Column 2	Column 1	Column 2	Detects	Non-detects
A4B17	5978	475	276	269	J A	A
B18	19413	530	228	217	J A	↓
B21	13123	1162	866	868	J A	↓
B22	248	88	75	85	A	A
A4B17DL	0	0	0	0	A	A
A4B18DL	0	0	0	0	↓	↓
A4B21DL	0	0	0	0	↓	↓

100X then 1000-2000 #1 - #2

TCX - Tetrachloro-m-xylene DCB - Decachlorobiphenyl

QC Limits:	30-150	30-150

Qualification of data:

1. No action is taken when a sample is analyzed at a dilution.
2. No action is required when only one of the four surrogates is outside the QC acceptance criteria and the recovery is > 10%.
1. Estimate (J, UJ) all positive and non-detected results if any two surrogates are < the QC acceptance criteria.
2. Estimate (J) all positive results if any two surrogates are > the QC acceptance criteria.
3. Reject (R) all non-detected results and estimate (J) all positive results if any one surrogate is < 10%.

Sample Results	One or more surrogates < 10%	Two or more surrogates 10% ≤ %R < LL	All surrogates LL ≤ %R ≤ UL	Two or more surrogates > UL
Detects	J	J	A	J
Non-detects	R	UJ	A	A

LL - Lower Limit UL - Upper Limit

Validator: MAHANY Date: 5/30/13

EPA - NE - Data Validation Worksheets
Form 10

All Criteria Met _____

Case: Y3392
SDG: A4B24

Site Name: JARD Company Inc
Page 1 of 1

Sample No.	Compound	Column I	Column II	%D	Action	Comments
A4B27	AR1242	110	190	72.7	J	
A4B23	AR1242	150	190	26.7	J	
A4B34	AR1242	410	280	46.4	J	

Use Comments section to list compounds that went to "U" due to Blank Contamination Actions or Co-elution with Aroclors.

Actions:

J - Estimate results when %D > 25% but ≤100% for pesticides or %D >25% but ≤500% for PCBs.
J@ - %D >25% but ≤100% for pesticides or %D > 25% but ≤500% for PCBs. Previously qualified as estimated by laboratory due to quantitation below the quantitation limit. No further qualification is needed.
R - Reject results when %D >100 for pesticides or %D >500% for PCBs.
U - Qualify result as undetected at the CRQL when %D >100% for pesticides or %D >500% for PCBs and both results are < the CRQL.
U* - Report the non-detected result from the diluted analysis.
U^ - Compound not confirmed by GC/MS. Raise detection limit to reported concentration.
DL - Report the result from the diluted analysis.

Validator: MAHANY

Date: 5/30/13

107, MW-2, MW-3, MW-3D, MW-6, MW-6D, MW-9D, and MW-11. Based on the above information, START personnel planned to purge/develop monitoring wells MW-2, MW-3, MW-3D, MW-6, and MW-6D on 28 March 2013.

1630 hrs: START personnel marked properties located along Park Street and Bowen Road for Dig Safe notification. Following dig safe marking; START personnel secured and departed the site.

28 March 2013 (Thursday) – Site Reconnaissance, Well Development

Weather: Cloudy, high 30 to low 40 °F

0700 hrs: START members Kelly, Hornok, Bitzas, and Robinson arrived at the Jard property. START members completed calibration checks on air monitoring instrument; MultiRAE Plus, LEL, O_2, H_2S, CO, and PID meter. Background ambient readings: LEL = 0%; O_2 = 20.9%; H_2S = 0 ppm; CO = 0 ppm; and VOC = 0 ppm.

0715 hrs: START HSC Kelly reviewed the site HASP and conducted a tailgate health and safety meeting for all on-site START personnel, including reviews of the physical hazards (uneven terrain, trips-slips-falls, potential weather issues), chemical hazards [PCBs, non-aqueous phase liquids (NAPL) containing water], Radiation (Not encountered previously) and biological hazards (ticks, poison ivy, animals). Personnel reviewed and signed the HASP documentation, as needed.

0800 hrs: START personnel began purging/developing the selected ground water monitoring wells using a Wattera inertia pump system with dedicated tubing, check valve, and surge block at each well. START personnel established on site investigative derived waste (IDW) staging area along west side of Source Pile, on asphalt pavement area/driveway. Location will allow truck for IDW pickup to enter and exit site easily. Staging area consists of 55-gallon drums placed on wooden pallets.

0900 hrs: START PL. Kelly discussed with CORs Bosworth and Smith regarding status of the monitoring well examination, and selection of wells to be purged and sampled. CORs agreed with selection of wells to be sampled.

START personnel continued well purging operations. For the monitoring wells selected for redevelopment/purging, the purge volume in approximate (~) gallons is listed for each well. The following ~ volumes of ground water and/or material were purged from the groundwater wells listed above: MW-2: ~10 gallons; MW-3: ~10 gallons; MW-3D: ~20 gallons; MW-6: ~5 gallons; and MW-6D: ~ 30 gallons. Approximately 4.5 feet of silt material was removed from ground water monitoring well MW-6D. In addition, a very thin NAPL with a greasy feel, along with black oil-like droplets, and a rainbow sheen were observed in IDW purge water removed from MW-3, MW-3D, and MW-6D.

1330 hrs: START personnel secured the groundwater monitoring well IDW purge water drums, secured the site and departed the Jard property.

1 April 2013 (Monday) – Soil/Source Sampling

Weather: Cloudy, some rain, 45 to 50 °F

1045 hrs: START members Kelly, Hornok, Bitzas, Imbres, Robinson, and Jonathan Saylor arrived at the Jard property.

1100 hrs: START HSC Kelly reviewed the site HASP and conducted a tailgate health and safety meeting for all on-site START personnel, including reviews of the physical hazards (uneven terrain, trips-slips-falls, heavy lifting, Geoprobe Work concerns, potential adverse weather conditions), chemical hazards (PCBs), Radiation (Not encountered previously but will be monitored) and biological hazards (ticks, poison ivy, animals). Personnel reviewed and signed

the HASP documentation, as needed. START members completed calibration checks on air monitoring instrument; MultiRAE Plus, LEL, O_2, H_2S, CO, and PID meter. Background ambient readings: LEL = 0%; O_2 = 20.9%; H_2S = 0 ppm; CO = 0 ppm; and VOC = 0 ppm. START Team established decontamination area.

1115 hrs: START personnel began decontaminating non-dedicated field sampling equipment including Geoprobe macrocores and cutting shoes, hand augers, metal scoops, and low-flow bladder pumps. Non-dedicated equipment (Geoprobe equipment, augers, metal scoops, etc.) will be decontaminated after the collection of each sample, and prior to use for the collection of other samples.

1400 hrs: Began soil boing activities with the Geoprobe at soil boring location SB-01 located on the south-central area of the former building footprint in an area previously excavated during an EPA Removal action. An EPA removal action was completed at the site during 2007 where the building was razed, a portion of the concrete foundation was removed, and a permeable earthen cap was installed to limit exposure to contaminated soils. Boring activities as part of the Site Reassessment were targeted at the area of the foundation removal and soil excavation (southern portion of the former building footprint).

Sampling on the Jard property and surrounding properties for solid matrices (soil/source, surface soil, and sediment) will be conducted as follows, unless otherwise noted: locations will be designated prior to initiation of sampling activities; at each location, sampling depth will be determined based on sampling objectives and/or materials encountered; for each sampled depth interval at each location, material will be placed in a large polyethylene bag (12 by 15 inches); the material will then be homogenized completely in the bag; the material will later be described by a licensed professional geologist using the modified Burmiester soil classification system and a small sample aliquot will be collected for PCB field screening analysis performed by the US EPA Mobile Laboratory personnel; based on field screening results and sampling objectives, a subset of samples will be selected for further analysis via Contract Laboratory Program (CLP) Aroclor analysis; samples selected for CLP analysis will be aliquoted with sufficient quality assurance/quality control (QA/QC) volume; all solid matrix samples submitted for CLP Aroclor analysis will also be aliquoted for potential congener analysis, unless otherwise noted; following receipt of CLP Aroclor analytical results, a smaller subset of samples will then be selected and submitted for congener analysis. A separate field data sheet will be completed by the field sampler for each sample collected to document relevant information and to supplement field logbook notes.

Additional START personnel performed bump checks on calibrated YSI 550 pH/oxidation reduction potential (ORP)/Conductivity probes for ground water sampling scheduled to be completed on 2 April 2013. All the calibrated ground water sampling equipment was working properly (See calibration log sheets).

1415 hrs: Soil/source sample SB-01A (Sample #: JCS-128) was collected using a Geoprobe macrocore from a depth of 2.7 to 4 feet bgs from soil boring SB-01 and later submitted for PCB field screening analysis.

1420 hrs: Soil/source sample SB-01B (Sample #: JCS-129) was collected using a Geoprobe macrocore from a depth of 6.9 to 8 feet bgs from soil boring SB-01 and later submitted for PCB field screening analysis.

1430 hrs: Soil/source sample SB-01C (Sample #: JCS-130) was collected using a Geoprobe macrocore from a depth of 10.4 to 12 feet bgs from soil boring SB-01 and later submitted for PCB field screening analysis.

1440 hrs: Soil/source sample SB-01D (Sample #: JCS-131) was collected using a Geoprobe macrocore from a depth of 12 to 14 feet bgs from soil boring SB-01 and later submitted for PCB field screening analysis.

1500 hrs: START personnel completed soil boing activities at location SB-01. Soil boring SB-01 was completed to a depth of 14 feet bgs due to refusal. See the soil Boring Logs for complete descriptions of the boring completed. The soil boring was backfilled with sand and bentonite. START personnel relocated to and began boring activities at soil boring location SB-02 located on the south-central area of the former building footprint in an area previously excavated during an EPA Removal action.

1520 hrs: Soil/source sample SB-02A (Sample #: JCS-132) was collected using a Geoprobe macrocore from a depth of 2.2 to 4 feet bgs from soil boring SB-02 and later submitted for PCB field screening analysis.

1530 hrs: Soil/source sample SB-02B (Sample #: JCS-133) was collected using a Geoprobe macrocore from a depth of 6.9 to 8 feet bgs from soil boring SB-02 and later submitted for PCB field screening analysis.

1540 hrs: Soil/source sample SB-02C (Sample #: JCS-134) was collected using a Geoprobe macrocore from a depth of 8.8 to 10 feet bgs from soil boring SB-02 and later submitted for PCB field screening analysis.

1545 hrs: START personnel completed soil boing activities at location SB-02. Soil boring SB-02 was completed to a depth of 10 feet bgs due to refusal. Evidence (piece of) the orange snow fence layer installed as part of the earthen cap construction was encountered at 2.5 feet bgs. See the soil Boring Logs for complete descriptions of the boring completed. The soil boring was backfilled with sand and bentonite. START personnel relocated to and began boring activities at soil boring location SB-03, located on the south-central capped area, adjacent to ground water monitoring wells MW-3 and MW-3D.

1555 hrs: Soil/source sample SB-03A (Sample #: JCS-135) was collected using a Geoprobe macrocore from a depth of 0.7 to 2.6 feet bgs from soil boring SB-03 and later submitted for PCB field screening analysis.

1605 hrs: Soil/source sample SB-03B (Sample #: JCS-136) was collected using a Geoprobe macrocore from a depth of 4.8 to 6.5 feet bgs from soil boring SB-03 and later submitted for PCB field screening analysis.

1610 hrs: START personnel completed soil boing activities at location SB-03. Soil boring SB-03 was completed to a depth of 6.5 feet bgs due to refusal. The soil boring was backfilled with sand and bentonite. START personnel completed soil boring activities for the day.

1630 hrs: Equipment rinsate blank sample RB-01 (Sample #: JCW-013; CLP #: A4B02) was collected from the Geoprobe macrocore system sampling equipment and is associated with soil/source sampling activities conducted on 1 April 2013.

1700 hrs: START personnel secured the site and departed the Jard property.

2 April 2013 (Tuesday) – Ground Water Sampling

Weather: Cloudy, little precipitation, low 30 °F

0700 hrs: START members Kelly, Hornok, Bitzas, Imbres, Robinson, and Saylor arrived at the Jard property.

0715 hrs: START HSC Kelly HSC Kelly reviewed the site HASP and conducted a tailgate health and safety meeting for all on-site START personnel, including reviews of the physical hazards (uneven terrain, trips-slips-falls, potential weather issues), chemical hazards [PCBs, non-aqueous phase liquids (NAPL) containing water], Radiation (Not encountered previously) and biological hazards (ticks, poison ivy, animals). Personnel reviewed and signed the HASP documentation, as needed. START members completed calibration checks on air monitoring instrument; MultiRAE Plus, LEL, O_2, H_2S, CO, and PID meter. Background ambient readings: LEL = 0%; O_2 = 20.9%; H_2S = 0 ppm; CO = 0 ppm; and VOC = 0 ppm. Note that the ground

water monitoring equipment was calibrated on 1 April 2013 and bump-tested on 2 April 2013, and determined to be with calibration specifications (see calibration sheets).
START Team established decontamination area and conduct decontamination of non-dedicated equipment. Non-dedicated equipment (bladder pumps, measuring tapes, etc.) will be decontaminated after the collection of each sample, and prior to use for the collection of other samples.

0830 hrs: START member Bitzas began monitoring of low-flow parameters at ground water monitoring well EPA-104D located in the wetland area, west of Park Street and downgradient from the Jard property, behind the residential properties. START member Bitzas monitored low-flow ground water parameters per the Site-Specific Quality Assurance project Plan (QAPP) and START standard operating procedures (SOPs). See the field data sheets for more information.

0905 hrs: START member Saylor began monitoring of low-flow parameters at ground water monitoring well MW-11 located northwest of the Jard property. START member Saylor monitored low-flow ground water parameters per the Site-specific QAPP and START SOPs. See the field data sheets for more information.

0920 hrs: Stabilization of water quality parameters was achieved and ground water sample GW-10 [Matrix Spike/Matrix Spike Duplicate (MS/MSD)] (Sample #: JCW-010; CLP #: A4A99) was collected from monitoring well EPA-104D. Ground water sample GW-10 was collected using a bladder pump and the final water quality parameters were as follows: Temperature = 3.74 degrees Celsius (°C); Specific Conductivity = 91 micro Siemens per centimeter (µS/cm); pH = 5.72; ORP = 229.3 millivolts (mv); Dissolved Oxygen (DO) = 9.11 milligrams per liter (mg/L); and turbidity = 21.2 Nephelometric Turbidity Units (NTU). Note: Due to a YSI 550 probe malfunction, an additional volume of sample was collected for pH and ORP measurements using a second YSI 550. In addition, pH was monitored during low-flow activities with pH paper. Readings on pH paper indicated a pH between 5.0 and 6.0. A total of approximately 13.5 liters was purged prior to sample collection with the pump intake at 20.0 ft below the TOC. See the field data sheets for more information.

0940 hrs: START member Imbres began monitoring of low-flow parameters at ground water monitoring well EPA-107 located northwest of the Jard property. START member Imbres monitored low-flow ground water parameters per the Site-specific QAPP and START SOPs. See the field data sheets for more information.

1000 hrs: START member Robinson began monitoring of low-flow parameters at ground water monitoring well MW-9D located west of the Jard property. START member Robinson monitored low-flow ground water parameters per the Site-specific QAPP and START SOPs. See the field data sheets for more information.

1030 hrs: Stabilization of water quality parameters was achieved and ground water sample GW-02 (Sample #: JCW-002; CLP #: A4A91) was collected from monitoring well EPA-107. Ground water sample GW-02 was collected using a bladder pump and the final water quality parameters were as follows: Temperature = 5.14 °C; Specific Conductivity = 162 µS/cm; pH = 7.12; ORP = 192.9 mv; DO = 4.40 mg/L; and turbidity = 0.51 NTU. A total of approximately 11.0 liters was purged prior to sample collection with the pump intake at 17 ft. below the TOC.

1110 hrs: Stabilization of water quality parameters was achieved and ground water sample GW-09 (Sample #: JCW-009; CLP #: A4A98) was collected from monitoring well MW-11. Ground water sample GW-09 was collected using a bladder pump and the final water quality parameters were as follows: Temperature = 3.42 °C; Specific Conductivity = 55 µS/cm; pH = 6.34; ORP = 138.6 mv; DO = 11.41 mg/L; and turbidity = 10.3 NTU. A total of approximately 61.7 liters was purged prior to sample collection with the pump intake at 6.5 ft. below the TOC. The turbidity meter initially used to evaluate low-flow ground water parameters compliance malfunctioned and was replaced with one that was operational.

1125 hrs: Stabilization of water quality parameters was achieved and groundwater sample GW-08 (Sample #: JCW-008; CLP #: A4A97) and field duplicate GW-11 (Sample #: JCW-011; CLP #: A4B00) were collected from monitoring well MW-9D located west of the Jard property. Ground water samples GW-08 and GW-11 were collected using a bladder pump and the final water quality parameters were as follows: Temperature = 6.52 °C; Specific Conductivity = 44 µS/cm; pH = 6.29; ORP = 25.2 mv; DO = 0.13 mg/L; and turbidity = 34.2 NTU. A total of approximately 17 liters was purged prior to sample collection with the pump intake at 24 ft below the TOC. An issue was encountered with the turbidity meter during low-flow ground water monitoring, and was replaced with one that was operating.

1200 hrs: pH and ORP measurements were collected from a volume of water from ground water sample GW-10 and were as follows: pH = 5.72; ORP = 229.3 mv.

1250 hrs: START member Imbres began monitoring of low-flow parameters at ground water monitoring well EPA-100 located north of the Jard property. START member Imbres monitored all low-flow ground water parameters per the Site-specific QAPP and START SOPs. See the field data sheets for more information.

1310 hrs: START member Bitzas began monitoring of low-flow parameters at ground water monitoring well MW-2 located on the southern portion of the Jard property. START member Bitzas monitored all low-flow ground water parameters per the Site-specific QAPP and START SOPs. See the field data sheets for more information.

1345 hrs: START member Saylor began monitoring of low-flow parameters at ground water monitoring well MW-3D located directly south of the former building footprint on the southern portion of the Jard property. START member Saylor monitored all low-flow ground water parameters per the Site-specific QAPP and START SOPs. See the field data sheets for more information.

1355 hrs: Stabilization of water quality parameters was achieved and ground water sample GW-01 (Sample #: JCW-001; CLP #: A4A90) was collected from monitoring well EPA-100. Ground water sample GW-01 was collected using a bladder pump and the final water quality parameters were as follows: Temperature = 4.03 °C; Specific Conductivity = 119 µS/cm; pH = 6.61; ORP = 266.3 mv; DO = 11.74 mg/L; and turbidity = 1.78 NTU. A total of approximately 13.8 liters was purged prior to sample collection with the pump intake at 32 ft below the TOC.

1345 hrs: START member Robinson began monitoring of low-flow parameters at ground water monitoring well MW-6D located directly west of the former building footprint on the western boundary of the Jard property. START member Robinson monitored all low-flow ground water parameters per the Site-specific QAPP and START SOPs. See the field data sheets for more information.

1405 hrs: Stabilization of water quality parameters was achieved and ground water sample GW-03 (Sample #: JCW-003; CLP #: A4A92) was collected from monitoring well MW-02. Ground water sample GW-03 was collected using a peristaltic pump with dedicated tubing and the final water quality parameters were as follows: Temperature = 1.41 °C; Specific Conductivity = 79 µS/cm; pH = 5.59; ORP = 175.3 mv; DO = 11.41 mg/L; and turbidity = 0.91 NTU. A total of approximately 11 liters was purged prior to sample collection with the intake at 8.6 ft below the TOC.

1505 hrs: Stabilization of water quality parameters was achieved and ground water sample GW-05 (Sample #: JCW-005; CLP #: A4A94) was collected from monitoring well MW-3D. Ground water sample GW-05 was collected using a bladder pump and the final water quality parameters were as follows: Temperature = 1.90 °C; Specific Conductivity = 47 µS/cm; pH = 6.37; ORP = 112.7 mv; DO = 4.75 mg/L; and turbidity = 1.16 NTU. A total of approximately 13.6 liters was purged prior to sample collection with the pump intake at 29 ft below the TOC. In addition, stabilization of water quality parameters was achieved and ground water sample GW-07 (Sample #: JCW-007; CLP # A4A96) was collected from monitoring well MW-6D.

Ground water sample GW-07 was collected using a bladder pump and the final water quality parameters were as follows: Temperature = 7.17 °C; Specific Conductivity = 42 µS/cm; pH = 6.53; ORP = 203.9 mv; DO = 8.80 mg/L; and turbidity = 51.7 NTU. A total of approximately 16.7 liters was purged prior to sample collection with the pump intake at 26.5 ft below the TOC.

1545 hrs: START member Robinson began monitoring of low-flow parameters at ground water monitoring well MW-6 located directly west of the former building footprint on the western boundary of the Jard property. START member Robinson monitored all low-flow ground water parameters per the Site-specific QAPP and START SOPs. See the field data sheets for more information. The YSI initially used to monitor low-flow ground water parameters was replaced with one that was operational.

1555 hrs: START member Saylor began monitoring of low-flow parameters at ground water monitoring well MW-3 located directly south of the former building footprint on the southern portion of the Jard property. START member Saylor monitored all low-flow ground water parameters per the Site-specific QAPP and START SOPs. See the field data sheets for more information. Low-flow ground water parameters were not conducted within a flow cell due to potential contamination/non-aqueous phase liquid (NAPL) within the well. Previous purging of the well on 28 March 2013 indicated product within the well that had a greasy feel and contained small oil droplets that were black in color.

1600 hrs: Equipment rinsate blank sample RB-20 (Sample #: JCW-012; CLP #: A4B01) was collected from a bladder pump sampling equipment and is associated with ground water sampling activities.

1630 hrs: Stabilization of water quality parameters was achieved and ground water sample GW-06 (Sample #: JCW-006; CLP #: A4A95) was collected from monitoring well MW-6. Ground water sample GW-06 was collected using a peristaltic pump with dedicated tubing and the final water quality parameters were as follows: Temperature = 4.18 °C; Specific Conductivity = 116 µS/cm; pH = 6.35; ORP = -83.6 mv; DO = 0.20 mg/L; and turbidity = 0.72 NTU. A total of approximately 9 liters was purged prior to sample collection with the intake at 13.5 ft below the TOC.

1700 hrs: Stabilization of water quality parameters was achieved and ground water sample GW-04 (Sample #: JCW-004; A4A93) was collected from monitoring well MW-3. Ground water sample GW-04 was collected using a peristaltic pump with dedicated tubing and the final water quality parameters were as follows: Temperature = 1.25 °C; Specific Conductivity = 69 µS/cm; pH = 6.67; ORP = -158.2 mv; DO = 4.40 mg/L; and turbidity = 0.93 NTU. A total of approximately 15 liters was purged prior to sample collection with the intake at 10.5 ft below the TOC. Ground water sample GW-04 was also collected for congener analysis.

1730 hrs: IDW purge water was containerized in 55-gallon steel drums and segregated based on well location (on or off the Jard property). Segregation is to aid in later IDW disposal, assuming wells from on the Jard property contain high concentrations of contaminants than those wells located off the Jard property. In addition, waste soil material and IDW Decon waste are also segregated to aid in later IDW disposal activities. START personnel secured IDW drums, secured the site and departed the Jard property.

3 April 2013 (Wednesday) – Soil/Source Sampling

Weather: Partly cloudy, high 30 °F

0700 hrs: START members Kelly, Hornok, Bitzas, Imbres, Robinson, and Jonathan Saylor arrived at the Jard property. In addition, performance evaluation samples PE-AA3325 (Sample #: JCW-014;

CLP #: A4B03) and PE-AA2555 (Sample #: JCW-015; CLP#: A4B04) were collected for CLP Aroclor analysis.

0715 hrs: START HSC Kelly reviewed the site HASP and conducted a tailgate health and safety meeting for all on-site START personnel, including reviews of the physical hazards (uneven terrain, trips-slips-falls, heavy lifting, potential adverse weather conditions), chemical hazards (PCBs), Radiation (Not encountered previously but will be monitored) and biological hazards (ticks, poison ivy, snakes, animals). Personnel reviewed and signed the HASP documentation, as needed. START members completed calibration checks on air monitoring instrument; MultiRAE Plus, LEL, O_2, H_2S, CO, and PID meter. Background ambient readings: LEL = 0%; O_2 = 20.9%; H_2S = 0 ppm; CO = 0 ppm; and VOC = 0 ppm.
START Team established decontamination area and conduct decontamination of non-dedicated equipment. Non-dedicated equipment (augers, metal scoops, etc.) will be decontaminated after the collection of each sample, and prior to use for the collection of other samples.

0815 hrs: Soil/source sample SO-01A (Sample #: JCS-001) was collected with a hand auger at a depth of 0 to 8 inches bgs from the upper north-central portion of the pile located on the eastern portion of the Jard property and later submitted for PCB field screening analysis.

0820 hrs: Soil/source sample SO-02A (Sample #: JCS-002) was collected with a hand auger at a depth of 0 to 6 inches bgs from the upper central portion of the pile located on the eastern portion of the Jard property and later submitted for PCB field screening analysis.

0830 hrs: Soil/source sample SO-03A (Sample #: JCS-003) was collected with a hand auger at a depth of 0 to 6 inches bgs from the upper north-central portion of the pile located on the eastern portion of the Jard property and later submitted for PCB field screening analysis.
In addition, soil/source sample SO-04A (Sample #: JCS-004) was collected with a hand auger at a depth of 0 to 12 inches bgs from the upper central portion of the pile located on the eastern portion of the Jard property and later submitted for PCB field screening analysis.

0840 hrs: Soil/source sample SO-05A (Sample #: JCS-005) was collected with a hand auger at a depth of 0 to 8 inches bgs from the upper north-central portion of the pile located on the eastern portion of the Jard property and later submitted for PCB field screening analysis.
In addition, soil/source sample SO-06A (Sample #: JCS-006) was collected with a hand auger at a depth of 0 to 6 inches bgs from the upper central portion of the pile located on the eastern portion of the Jard property and later submitted for PCB field screening analysis.

0845 hrs: Soil/source sample SO-06B (Sample #: JCS-007) and soil/source field duplicate SO-100B (Sample #: JCS-065) were collected with a hand auger at a depth of 6 to 12 inches bgs from the upper central portion of the pile located on the eastern portion of the Jard property and later submitted for PCB field screening analysis.

0855 hrs: Soil/source sample SO-07A (Sample #: JCS-008) was collected with a hand auger at a depth of 0 to 12 inches bgs from the upper north-central portion of the pile located on the eastern portion of the Jard property and later submitted for PCB field screening analysis.
In addition, soil/source sample SO-08A (Sample #: JCS-009) was collected with a hand auger at a depth of 0 to 8 inches bgs from the upper north-central portion of the pile located on the eastern portion of the Jard property and later submitted for PCB field screening analysis.

1010 hrs: Soil/source sample SO-09A (Sample #: JCS-027) was collected with a hand auger at a depth of 0 to 8 inches bgs from the upper west-central portion of the pile located on the eastern portion of the Jard property and later submitted for PCB field screening analysis.
In addition, soil/source sample SO-10A (Sample #: JCS-010) was collected with a hand auger at a depth of 0 to 12 inches bgs from the upper central portion of the pile located on the eastern portion of the Jard property and later submitted for PCB field screening analysis.

1025 hrs: Soil/source sample SO-12A (Sample #: JCS-013) was collected with a hand auger at a depth of 0 to 6 inches bgs from the upper east-central portion of the pile located on the eastern portion of the Jard property and later submitted for PCB field screening analysis.

1030 hrs: Soil/source sample SO-11A (Sample #: JCS-011) was collected with a hand auger at a depth of 0 to 18 inches bgs from the upper west-central portion of the pile located on the eastern portion of the Jard property and later submitted for PCB field screening analysis.

1035 hrs: Soil/source sample SO-11B (Sample #: JCS-012) was collected with a hand auger at a depth of 18 to 42 inches bgs from the upper west-central portion of the pile located on the eastern portion of the Jard property and later submitted for PCB field screening analysis,

1040 hrs: Soil/source sample SO-14A (Sample #: JCS-015) was collected with a hand auger at a depth of 0 to 12 inches bgs from the upper east-central portion of the pile located on the eastern portion of the Jard property and later submitted for PCB field screening analysis.

1050 hrs: Soil/source sample SO-16A (Sample #: JCS-017) was collected with a hand auger at a depth of 0 to 6 inches bgs from the upper south-central portion of the pile located on the eastern portion of the Jard property and later submitted for PCB field screening analysis.

1055 hrs: Soil/source sample SO-16B (Sample #: JCS-018) was collected with a hand auger at a depth of 6 to 12 inches bgs from the upper south-central portion of the pile located on the eastern portion of the Jard property and later submitted for PCB field screening analysis.

1100 hrs: Soil/source sample SO-13A (Sample #: JCS-014) was collected with a hand auger at a depth of 0 to 16 inches bgs from the upper western-central portion of the pile located on the eastern portion of the Jard property and later submitted for PCB field screening analysis.

1106 hrs: Soil/source sample SO-18A (Sample #: JCS-020) was collected with a hand auger at a depth of 0 to 6 inches bgs from the upper southwestern portion of the pile located on the eastern portion of the Jard property and later submitted for PCB field screening analysis.

1110 hrs: Soil/source sample SO-15A (Sample #: JCS-016) was collected with a hand auger at a depth of 0 to 18 inches bgs from the upper southwestern portion of the pile located on the eastern portion of the Jard property and later submitted for PCB field screening analysis.

1123 hrs: Soil/source sample SO-18B (Sample #: JCS-021) was collected with a hand auger at a depth of 6 to 12 inches bgs from the upper southwestern portion of the pile located on the eastern portion of the Jard property and later submitted for PCB field screening analysis.

1125 hrs: Soil/source sample SO-17A (Sample #: JCS-019) was collected with a hand auger at a depth of 0 to 12 inches bgs from the upper southwestern portion of the pile located on the eastern portion of the Jard property and later submitted for PCB field screening analysis.

1130 hrs: Soil/source sample SO-19A (Sample #: JCS-022) was collected with a hand auger at a depth of 0 to 12 inches bgs from the upper central portion of the pile located on the eastern portion of the Jard property and later submitted for PCB field screening analysis.

1143 hrs: Soil/source sample SO-20A (Sample #: JCS-023) was collected with a hand auger at a depth of 0 to 6 inches bgs from the upper southern portion of the pile located on the eastern portion of the Jard property and later submitted for PCB field screening analysis.

1150 hrs: Soil/source sample SO-21A (Sample #: JCS-024) was collected with a hand auger at a depth of 0 to 12 inches bgs from the upper southern portion of the pile located on the eastern portion of the Jard property and later submitted for PCB field screening analysis.

1155 hrs: Soil/source sample SO-22A (Sample #: JCS-025) was collected with a hand auger at a depth of 0 to 6 inches bgs from the upper southwestern portion of the pile located on the eastern portion of the Jard property and later submitted for PCB field screening analysis.

1200 hrs: Soil/source sample SO-23A (Sample #: JCS-026) was collected with a hand auger at a depth of 0 to 3 inches bgs from the upper southwestern portion of the pile located on the eastern portion of the Jard property and later submitted for PCB field screening analysis.

1215 hrs: START personnel continued to complete CLP documentation and to package ground water and rinsate blank samples for shipment to the CLP Laboratory located in Mountainside, New Jersey. START geologist Kelly continued to conduct classification of sample matrix materials using the modified Burmiester soil classification and to prepare sample aliquots for field screening.

1540 hrs: Equipment rinsate blank sample RB-02 (Sample #: JCW-016: CLP #: A4B05) was collected from a hand auger sampling equipment (augers, scoops, etc.) and is associated with soil/source sampling activities.

1630 hrs: START personnel completed sample shipment preparation, organized and packaged traffic reports. START member Bitzas left the site and proceeded to deliverer samples and paperwork to FedEx, located in Menands, New York for shipment. Below is a summary of the traffic reports (TR), Airbill numbers (AB), and samples sent to the CLP Organics Laboratory (Chemtech Consulting Group) for PCB Aroclor analysis:

TR #: 1-040313-081601-0001, Master AB #: 5141 2418 0581, four groundwater samples for PCB Aroclor analysis. These four samples were shipped as dangerous goods due to previous sampling results and field observations and were to be combined with samples shipped under TR #: 1-040313-083108-0002 AB #: 5141 2418 0559, to constitute a complete sample delivery group (SDG) with appropriate quality assurance/quality control (QA/QC) samples.

TR #: 1-040313-083108-0002 AB #: 5141 2418 0559, seven ground water samples including one field duplicate, and one MS/MSD; plus two rinsate blank, and two performance evaluation samples for PCB Aroclor analysis. Samples from this TR were to be combined with samples shipped under TR #: 1-040313-081601-0001, Master AB #: 5141 2418 0581, to form a complete SDG.

1700 hrs: START personnel secured IDW drums, secured the site and departed the Jard property.

4 April 2013 (Thursday) – Soil/Source Sampling

Weather: Sunny, 45 to 50 °F

0700 hrs: START members Kelly, Hornok, Bitzas, Imbres, Robinson, and Jonathan Saylor arrived at the Jard property.

0715 hrs: START HSC Kelly reviewed the site HASP and conducted a tailgate health and safety meeting for all on-site START personnel, including reviews of the physical hazards (uneven terrain, trips-slips-falls, heavy lifting, traffic concerns, potential adverse weather conditions), chemical hazards (PCBs), Radiation (Not encountered previously but will be monitored) and biological hazards (ticks, poison ivy, animals). Personnel reviewed and signed the HASP documentation, as needed. START members completed calibration checks on air monitoring instrument; MultiRAE Plus, LEL, O2, H2S, CO, and PID meter. Background ambient readings: LEL = 0%; O_2 = 20.9%; H_2S = 0 ppm; CO = 0 ppm; and VOC = 0 ppm.

START Team established decontamination area and conduct decontamination of non-dedicated equipment. Non-dedicated equipment (augers, metal scoops, etc.) will be decontaminated after the collection of each sample, and prior to use for the collection of other samples.

0800 hrs: Soil/source sample SO-24A (Sample #: JCS-078) was collected with a hand auger at a depth of 0 to 8 inches bgs from the drainage ditch located on the northwestern portion of the Jard property and later submitted for PCB field screening analysis.

In addition, soil/source sample SO-25A (Sample #: JCS-028) was collected with a hand auger at a depth of 0 to 12 inches bgs from the drainage ditch located on the western portion of the Jard property and later submitted for PCB field screening analysis.

Soil/source sample SO-50A (Sample #: JCS-066) was collected with a hand auger at a depth of 0 to 12 inches bgs from the area below the former transformer area located on the southern portion of the Jard property and later submitted for PCB field screening analysis.

0805 hrs: Soil/source sample SO-24B (Sample #: JCS-079) was collected with a hand auger at a depth of 8 to 24 inches bgs from the drainage ditch located on the northwestern portion of the Jard property and later submitted for PCB field screening analysis.

0810 hrs: Soil/source sample SO-25B (Sample #: JCS-029) was collected with a hand auger at a depth of 12 to 30 inches bgs from the drainage ditch located on the western portion of the Jard property and later submitted for PCB field screening analysis.

In addition, soil/source sample SO-24C (Sample #: JCS-080) was collected with a hand auger at a depth of 24 to 30 inches bgs from the drainage ditch located on the northwestern portion of the Jard property and later submitted for PCB field screening analysis.

Soil/source sample SO-50B (Sample #: JCS-067) was collected with a hand auger at a depth of 12 to 16 inches bgs from the area below the former transformer area located on the southern portion of the Jard property and later submitted for PCB field screening analysis.

0815 hrs: Soil/source sample SO-25C (Sample #: JCS-030) was collected with a hand auger at a depth of 30 to 48 inches bgs from the drainage ditch located on the western portion of the Jard property and later submitted for PCB field screening analysis.

0818 hrs: Soil/source sample SO-51A (Sample #: JCS-068) was collected with a hand auger at a depth of 0 to 6 inches bgs from the area below the former transformer area located on the southern portion of the Jard property and later submitted for PCB field screening analysis.

0823 hrs: Soil/source sample SO-26A (Sample #: JCS-031) was collected with a hand auger at a depth of 0 to 12 inches bgs from the drainage ditch located on the northwestern portion of the Jard property and later submitted for PCB field screening analysis.

0826 hrs: Soil/source sample SO-52A (Sample #: JCS-069) was collected with a hand auger at a depth of 0 to 4 inches bgs from the area below the former transformer area located on the southern portion of the Jard property and later submitted for PCB field screening analysis.

0830 hrs: Soil/source sample SO-27A (Sample #: JCS-036) was collected with a hand auger at a depth of 0 to 18 inches bgs from the drainage ditch located on the western portion of the Jard property and later submitted for PCB field screening analysis.

0833 hrs: Soil/source sample SO-26B (Sample #: JCS-032) was collected with a hand auger at a depth of 12 to 18 inches bgs from the drainage ditch located on the northwestern portion of the Jard property and later submitted for PCB field screening analysis.

0835 hrs: Soil/source sample SO-27B (Sample #: JCS-038) was collected with a hand auger at a depth of 18 to 24 inches bgs from the drainage ditch located on the western portion of the Jard property and later submitted for PCB field screening analysis.

0836 hrs: Soil/source sample SO-26C (Sample #: JCS-033) was collected with a hand auger at a depth of 18 to 24 inches bgs from the drainage ditch located on the northwestern portion of the Jard property and later submitted for PCB field screening analysis.

0840 hrs: Soil/source sample SO-26D (Sample #: JCS-034) was collected with a hand auger at a depth of 24 to 36 inches bgs from the drainage ditch located on the northwestern portion of the Jard property and later submitted for PCB field screening analysis.

0845 hrs: Soil/source sample SO-29A (Sample #: JCS-040) was collected with a hand auger at a depth of 0 to 12 inches bgs from the area located along the western boundary of the Jard property and later submitted for PCB field screening analysis.

0850 hrs: Soil/source sample SO-26E (Sample #: JCS-035) was collected with a hand auger at a depth of 36 to 42 inches bgs from the drainage ditch located on the northwestern portion of the Jard property and later submitted for PCB field screening analysis.

0900 hrs: Soil/source sample SO-31A (Sample #: JCS-043) was collected with a hand auger at a depth of 0 to 12 inches bgs from the area located along the western boundary of the Jard property and later submitted for PCB field screening analysis.

0905 hrs: Soil/source sample SO-28A (Sample #: JCS-039) was collected with a hand auger at a depth of 0 to 8 inches bgs from the area located along the western boundary of the Jard property and later submitted for PCB field screening analysis.
In addition, soil/source sample SO-31B (Sample #: JCS-044) was collected with a hand auger at a depth of 12 to 24 inches bgs from the area located along the western boundary of the Jard property and later submitted for PCB field screening analysis.

0920 hrs: Soil/source sample SO-30A (Sample #: JCS-041) was collected with a hand auger at a depth of 0 to 12 inches bgs from the area located along the southwestern boundary of the Jard property and later submitted for PCB field screening analysis.
In addition, soil/source sample SO-33A (Sample #: JCS-081) was collected with a hand auger at a depth of 0 to 18 inches bgs from the area located along the northwestern boundary of the Jard property and later submitted for PCB field screening analysis.

0930 hrs: Soil/source sample SO-30B (Sample #: JCS-042) was collected with a hand auger at a depth of 12 to 24 inches bgs from the area located along the southwestern boundary of the Jard property and later submitted for PCB field screening analysis.
In addition, soil/source sample SO-33B (Sample #: JCS-082) was collected with a hand auger at a depth of 18 to 30 inches bgs from the area located along the northwestern boundary of the Jard property and later submitted for PCB field screening analysis.

0935 hrs: Soil/source sample SO-33C (Sample #: JCS-083) was collected with a hand auger at a depth of 30 to 36 inches bgs from the area located along the northwestern boundary of the Jard property and later submitted for PCB field screening analysis.

0940 hrs: Soil/source sample SO-32A (Sample #: JCS-045) was collected with a hand auger at a depth of 0 to 12 inches bgs from the area located along the southwestern boundary of the Jard property and later submitted for PCB field screening analysis.

1035 hrs: Soil/source sample SO-35A (Sample #: JCS-047) was collected with a hand auger at a depth of 0 to 12 inches bgs from the southwestern slope of the pile located on the eastern portion of the Jard property and later submitted for PCB field screening analysis.

1045 hrs: Soil/source sample SO-37A (Sample #: JCS-049) was collected with a hand auger at a depth of 0 to 6 inches bgs from the southwestern slope of the pile located on the eastern portion of the Jard property and later submitted for PCB field screening analysis.
In addition, soil/source sample SO-53A (Sample #: JCS-084) was collected with a hand auger at a depth of 0 to 12 inches bgs from the area below the former transformer area located on the southern portion of the Jard property and later submitted for PCB field screening analysis.

1055 hrs: Soil/source sample SO-39A (Sample #: JCS-051) was collected with a hand auger at a depth of 0 to 12 inches bgs from the southwestern slope of the pile located on the eastern portion of the Jard property and later submitted for PCB field screening analysis.
In addition, soil/source sample SO-54A (Sample #: JCS-085) was collected with a hand auger at a depth of 0 to 8 inches bgs from the area below the former transformer area located on the southern portion of the Jard property and later submitted for PCB field screening analysis.

1100 hrs: Soil/source sample SO-39B (Sample #: JCS-052) was collected with a hand auger at a depth of 12 to 24 inches bgs from the southwestern slope of the pile located on the eastern portion of the Jard property and later submitted for PCB field screening analysis.
START geologist Kelly continued to conduct classification of sample matrix materials using the modified Burmiester soil classification and to prepare sample aliquots for field screening.

1110 hrs: Soil/source sample SO-41A (Sample #: JCS-054) was collected with a hand auger at a depth of 0 to 8 inches bgs from the western slope of the pile located on the eastern portion of the Jard property and later submitted for PCB field screening analysis.

1120 hrs: Soil/source sample SO-41B (Sample #: JCS-055) was collected with a hand auger at a depth of 8 to 18 inches bgs from the western slope of the pile located on the eastern portion of the Jard property and later submitted for PCB field screening analysis.

1125 hrs: Soil/source sample SO-41C (Sample #: JCS-056) was collected with a hand auger at a depth of 18 to 30 inches bgs from the western slope of the pile located on the eastern portion of the Jard property and later submitted for PCB field screening analysis.

1145 hrs: Soil/source sample SO-34A (Sample #: JCS-046) was collected with a hand auger at a depth of 0 to 12 inches bgs from the upper northeastern portion of the pile located on the eastern portion of the Jard property and later submitted for PCB field screening analysis.
In addition, soil/source sample SO-43A (Sample #: JCS-058) was collected with a hand auger at a depth of 0 to 12 inches bgs from the southwestern toe slope of the pile located on the eastern portion of the Jard property and later submitted for PCB field screening analysis.

1150 hrs: Soil/source sample SO-45A (Sample #: JCS-060) was collected with a hand auger at a depth of 0 to 18 inches bgs from the western toe slope of the pile located on the eastern portion of the Jard property and later submitted for PCB field screening analysis.

1210 hrs: Soil/source sample SO-47A (Sample #: JCS-062) was collected with a hand auger at a depth of 0 to 6 inches bgs from the western slope of the pile located on the eastern portion of the Jard property and later submitted for PCB field screening analysis.

1210 hrs: START Member Hornok contacted and discussed sampling progress with COR Bosworth. Discussed number of samples collected to date, groundwater well sampling status, difficulties source sampling to depth on the upper portion of the source pile, source areas along western property boundary, and planned field screening and sampling activities. Scott Clifford (EPA Chemist) will be on site on Monday (4/8/13).

1225 hrs: Soil/source sample SO-38A (Sample #: JCS-050) was collected with a hand auger at a depth of 0 to 8 inches bgs from the upper northern portion of the pile located on the eastern portion of the Jard property and later submitted for PCB field screening analysis.

1230 hrs: Soil/source sample SO-36A (Sample #: JCS-048) was collected with a hand auger at a depth of 0 to 12 inches bgs from the upper northern portion of the pile located on the eastern portion of the Jard property and later submitted for PCB field screening analysis.
In addition, soil/source sample SO-49A (Sample #: JCS-064) was collected with a plastic scoop at a depth of 0 to 3 inches bgs from the western slope of the pile located on the eastern portion of the Jard property and later submitted for PCB field screening analysis.

1235 hrs: Soil/source sample SO-55A (Sample #: JCS-070) was collected with a plastic scoop at a depth of 0 to 4 inches bgs from the western slope of the pile located on the eastern portion of the Jard property and later submitted for PCB field screening analysis.

1350 hrs: Soil/source sample SO-56A (Sample #: JCS-071) was collected with a hand auger at a depth of 0 to 12 inches bgs from the western toe slope of the pile located on the eastern portion of the Jard property and later submitted for PCB field screening analysis.

1405 hrs: Soil/source sample SO-57A (Sample #: JCS-072) was collected with a hand auger at a depth of 0 to 6 inches from the western toe slope of the pile located on the eastern portion of the Jard property and later submitted for PCB field screening analysis.

1415 hrs: Soil/source sample SO-40A (Sample #: JCS-053) was collected with a hand auger at a depth of 0 to 8 inches bgs from the upper northwestern portion of the pile located on the eastern portion of the Jard property and later submitted for PCB field screening analysis.

1420 hrs: Soil/source sample SO-42A (Sample #: JCS-057) was collected with a hand auger at a depth of 0 to 12 inches bgs from the northern slope of the pile located on the eastern portion of the Jard property and later submitted for PCB field screening analysis.

1425 hrs: Soil/source sample SO-59A (Sample #: JCS-074) was collected with a metal scoop at a depth of 0 to 4 inches bgs from the western slope of the pile located on the eastern portion of the Jard property and later submitted for PCB field screening analysis.

1430 hrs: Soil/source sample SO-58A (Sample #: JCS-073) was collected with a metal scoop at a depth of 0 to 2 inches bgs from the western slope of the pile located on the eastern portion of the Jard property and later submitted for PCB field screening analysis.

1435 hrs: Soil/source sample SO-60A (Sample #: JCS-075) was collected with a hand auger at a depth of 0 to 12 inches bgs from the western slope of the pile located on the eastern portion of the Jard property and later submitted for PCB field screening analysis.

1438 hrs: Soil/source sample SO-46A (Sample #: JCS-061) was collected with a hand auger at a depth of 0 to 8 inches from the northern slope of the pile located on the eastern portion of the Jard property and later submitted for PCB field screening analysis.

1440 hrs: Soil/source sample SO-44A (Sample #: JCS-059) was collected with a hand auger at a depth of 0 to 6 inches bgs from the northern slope of the pile located on the eastern portion of the Jard property and later submitted for PCB field screening analysis.

1505 hrs: Soil/source sample SO-61A (Sample #: JCS-182) was collected with a hand auger at a depth of 0 to 12 inches from the western slope of the pile located on the eastern portion of the Jard property and later submitted for PCB field screening analysis.

1515 hrs: Soil/source sample SO-63A (Sample #: JCS-077) was collected with a hand auger at a depth of 0 to 8 inches bgs from the western slope of the pile located on the eastern portion of the Jard property and later submitted for PCB field screening analysis.

1520 hrs: Soil/source sample SO-62A (Sample #: JCS-076) was collected with a hand auger at a depth of 0 to 12 inches from the northern slope of the pile located on the eastern portion of the Jard property and later submitted for PCB field screening analysis.
In addition, soil/source sample SO-64A (Sample #: JCS-183) was collected with a hand auger at a depth of 0 to 4 inches from the northern slope of the pile located on the eastern portion of the Jard property and later submitted for PCB field screening analysis.

1630 hrs: Soil/source sample SO-48A (Sample #: JCS-063) was collected with a plastic scoop at a depth of 0 to 3 inches bgs from the western slope of the pile located on the eastern portion of the Jard property and later submitted for PCB field screening analysis.

1700 hrs: Equipment rinsate blank sample RB-03 (Sample #: JCW-017: CLP #: A4B06) was collected from hand auger sampling equipment (augers, scoops, etc.) associated with soil/source sampling activities.

1705 hrs: Equipment rinsate blank sample RB-04 (Sample #: JCW-018: CLP #: A4B07) was collected from hand auger sampling equipment (augers, scoops, etc.) associated with soil/source sampling activities.

1730 hrs: START personnel secured IDW drums, secured the site and departed the Jard property.

5 April 2013 (Friday) – Soil/Source Sampling

Weather: Partly cloudy, low 50 °F

0730 hrs: START members Kelly, Hornok, Bitzas, Imbres, Robinson, and Jonathan Saylor arrived at the Jard property. COR Bosworth also arrived on site for meeting with EPA and town representatives.

0745 hrs: START HSC Kelly reviewed the site HASP and conducted a tailgate health and safety meeting for all on-site START personnel, including reviews of the physical hazards (uneven

terrain, trips-slips-falls, heavy lifting, traffic concerns, potential adverse weather conditions), chemical hazards (PCBs), Radiation (Not encountered previously but will be monitored) and biological hazards (ticks, poison ivy, animals). Personnel reviewed and signed the HASP documentation, as needed. START members completed calibration checks on air monitoring instrument; MultiRAE Plus, LEL, O2, H2S, CO, and PID meter. Background ambient readings: LEL = 0%; O_2 = 20.9%; H_2S = 0 ppm; CO = 0 ppm; and VOC = 0 ppm.

START Team established decontamination area and conduct decontamination of non-dedicated equipment. Non-dedicated equipment (augers, metal scoops, etc.) will be decontaminated after the collection of each sample, and prior to use for the collection of other samples.

START embers Kelly and Hornok held discussions with COR Bosworth regarding current status of sampling activities, Flex-viewer Data Management Resource, and groundwater shipment/delivery.

0845 hrs: Soil/source sample SO-65A (Sample #: JCS-086) was collected with a hand auger at a depth of 0 to 8 inches from the western slope of the pile located on the eastern portion of the Jard property and later submitted for PCB field screening analysis.

START geologist Kelly continued to conduct classification of sample matrix materials using the modified Burmiester soil classification and to prepare sample aliquots for field screening.

0855 hrs: Soil/source sample SO-66A (Sample #: JCS-087) was collected with a plastic scoop at a depth of 0 to 3 inches bgs from the northern slope of the pile located on the eastern portion of the Jard property and later submitted for PCB field screening analysis.

0900 hrs: Soil/source sample SO-67A (Sample #: JCS-088) was collected with a hand auger at a depth of 0 to 6 inches bgs from the western slope of the pile located on the eastern portion of the Jard property and later submitted for PCB field screening analysis.

In addition, soil/source sample SO-68A (Sample #: JCS-089) was collected with a hand auger at a depth of 0 to 12 inches bgs from the northern slope of the pile located on the eastern portion of the Jard property and later submitted for PCB field screening analysis.

0915 hrs: Soil/source sample SO-70A (Sample #: JCS-093) was collected with a hand auger at a depth of 0 to 12 inches bgs from the northern slope of the pile located on the eastern portion of the Jard property and later submitted for PCB field screening analysis.

In addition, soil/source sample SO-72A (Sample #: JCS-095) was collected with a hand auger at a depth of 0 to 10 inches bgs from the drainage area at the base of the northeastern corner of the pile located on the eastern portion of the Jard property and later submitted for PCB field screening analysis.

0920 hrs: Soil/source sample SO-69A (Sample #: JCS-090) was collected with a hand auger at a depth of 0 to 12 inches bgs from the western slope of the pile located on the eastern portion of the Jard property and later submitted for PCB field screening analysis.

In addition, soil/source sample SO-72B (Sample #: JCS-096) was collected with a hand auger at a depth of 10 to 20 inches bgs from the drainage area at the base of the northeastern corner of the pile located on the eastern portion of the Jard property and later submitted for PCB field screening analysis.

0925 hrs: Soil/source sample SO-69B (Sample #: JCS-091) was collected with a hand auger at a depth of 12 to 36 inches bgs from the western slope of the pile located on the eastern portion of the Jard property and later submitted for PCB field screening analysis.

0930 hrs: Soil/source sample SO-69C (Sample #: JCS-092) was collected with a hand auger at a depth of 36 to 48 inches bgs from the western slope of the pile located on the eastern portion of the Jard property and later submitted for PCB field screening analysis.

0945 hrs: Soil/source sample SO-76A (Sample #: JCS-102) was collected with a hand auger at a depth of 0 to 14 inches bgs from the eastern slope of the pile located on the eastern portion of the Jard property and later submitted for PCB field screening analysis.

0950 hrs: Soil/source sample SO-71A (Sample #: JCS-094) was collected with a hand auger at a depth of 0 to 24 inches bgs from the lower eastern slope of the pile located on the eastern portion of the Jard property and later submitted for PCB field screening analysis.
In addition, soil/source sample SO-74A (Sample #: JCS-098) was collected with a hand auger at a depth of 0 to 12 inches bgs from the eastern slope of the pile located on the eastern portion of the Jard property and later submitted for PCB field screening analysis.

1000 hrs: Soil/source sample SO-74B (Sample #: JCS-099) was collected with a hand auger at a depth of 12 to 30 inches bgs from the eastern slope of the pile located on the eastern portion of the Jard property and later submitted for PCB field screening analysis.

1005 hrs: Soil/source sample SO-73A (Sample #: JCS-097) was collected with a hand auger at a depth of 0 to 28 inches bgs from the eastern slope of the pile located on the eastern portion of the Jard property and later submitted for PCB field screening analysis.

1010 hrs: Soil/source sample SO-75A (Sample #: JCS-100) was collected with a hand auger at a depth of 0 to 12 inches bgs from the eastern slope of the pile located on the eastern portion of the Jard property and later submitted for PCB field screening analysis.

1020 hrs: Soil/source sample SO-77A (Sample #: JCS-101) was collected with a hand auger at a depth of 0 to 18 inches bgs from the eastern slope of the pile located on the eastern portion of the Jard property and later submitted for PCB field screening analysis.

1100 hrs: VT DEC ANR Wetland Specialist Julie Foley arrived on-site to discuss wetland areas around the site with START personnel. Wetland Specialist Foley provide START with previously completed wetland delineation map of wetlands to west of Park Street. START members Hornok, Bitzas and Kelly reviewed available wetland references/maps with Specialist Foley.

1130 hrs: Equipment rinsate blank sample RB-05 (Sample #: JCW-019: CLP #: A4B08) was collected from hand auger sampling equipment (augers, scoops, etc.) associated with soil/source sampling activities.
COR Bosworth returned from meeting with Section Chief Meghan Cassidy to review operations.

1140 hrs: COR Bosworth and Section Chief Cassidy departed site.
Wetland Specialist Foley accompanied START members Kelly and Bitzas on reconnaissance of wetland areas to the west of Park Street and background wetland area along Bowen Road north of the Jard property.

1200 hrs: START personnel completed sample shipment preparation, organized and packaged traffic reports. START members Robinson and Saylor proceeded to deliverer samples and paperwork to FedEx, located in Brattleboro, VT for shipment. Below is a summary of the TRs AB numbers and samples sent to the CLP Organics Laboratory (Chemtech Consulting Group) for PCB Aroclor analysis:
TR #: 1-040513-111321-0003, Master AB #: 5141 2418 0662, four aqueous equipment rinsate blank samples for PCB Aroclor analysis.

1215 hrs: Wetland Specialist Foley confirmed that wetland delineation map of wetlands to west of Park Street is generally the same as current conditions based on reconnaissance and review of area. Foley also noted that the proposed background area to the north along Bowen Road, contained similar types of wetland (PEM, PSS, POW, etc.). Wetland Specialist Foley left the site to attend a local meeting/inspection.
START member Kelly spoke START PM McDuffee regarding leaving the Geoprobe Truck secured on the VTrans property for the weekend in an effort to be more sustainable/"Green". PM McDuffee agreed to plan.

START members Hornok and Kelly spoke with a VTrans representative at the Bowen Road facility regarding leaving the Geoprobe Truck secured on the VTDOT property for the weekend in an effort to be more sustainable/"Green". The VTrans representative agreed and explained there security for the weekend hours and where it would be best to park the vehicle. Informed PM McDuffee agreed to plan.

1230 hrs: Remaining START personnel secured IDW drums, secured the site and departed the Jard property for the START office located in Andover, MA.

8 April 2013 (Monday) – Soil/Source Sampling

Weather: Partly sunny, high 50 to low 60 °F

1030 hrs: START members Kelly, Hornok, Bitzas, Eric Ackerman, Chris Dupree, Robinson, Jonathan Saylor, and Robert Sharp arrived at the Jard property. START Member Hornok picked up Geoprobe truck from VT DOT facility along Bowen Road. In addition, EPA SAM Martha Bosworth had already arrived on-site.

1045 hrs: START HSC Kelly reviewed the site HASP and conducted a tailgate health and safety meeting for all on-site START personnel, including reviews of the physical hazards (uneven terrain, trips-slips-falls, heavy lifting, Geoprobe Work concerns, potential adverse weather conditions), chemical hazards (PCBs), Radiation (Not encountered previously but will be monitored) and biological hazards (ticks, poison ivy, dogs, animals). Personnel reviewed and signed the HASP documentation, as needed. START members completed calibration checks on air monitoring instrument; MultiRAE Plus, LEL, O2, H2S, CO, and PID meter. Background ambient readings: LEL = 0%; O_2 = 20.9%; H_2S = 0 ppm; CO = 0 ppm; and VOC = 0 ppm.

START Team established decontamination area and conduct decontamination of non-dedicated equipment. Non-dedicated equipment (Geoprobe equipment, augers, metal scoops, etc.) will be decontaminated after the collection of each sample, and prior to use for the collection of other samples.

1100 hrs: Soil boring activities began at soil boring location SB-05 located on the south-eastern area of the former building footprint in an area previously excavated during an EPA Removal action. In addition, EPA Office of Environmental Measurement and Evaluation (OEME) Mobile Laboratory chemist Scott Clifford arrived on-site to perform PCB field screening analysis. Sample aliquots for PCB field screening, collected to date between 1 April and 5 April, were transferred to EPA chemist Clifford for processing and PCB field screening analyses.

START geologist Kelly continued to conduct classification of sample matrix materials using the modified Burmiester soil classification and to prepare sample aliquots for field screening.

1130 hrs: Soil/source sample SB-05A (Sample #: JCS-137) was collected using a Geoprobe macrocore from a depth of 2.1 to 4 feet bgs from soil boring SB-05 and later submitted for PCB field screening analysis.

1135 hrs: Soil/source sample SB-05B (Sample #: JCS-138) was collected using a Geoprobe macrocore from a depth of 5.3 to 5.6 feet bgs from soil boring SB-05 and later submitted for PCB field screening analysis.

1140 hrs: START personnel completed soil boring activities at location SB-05. Soil boring SB-05 was completed to a depth of 6 feet bgs due to refusal. Team backfilled hole with sand and bentonite and relocated to next location. Boring activities began at soil boring location SB-07 located on the south-eastern area of the former building footprint in an area previously excavated during an EPA Removal action.

1145 hrs: Soil/source sample SB-07A (Sample #: JCS-139) was collected using a Geoprobe macrocore from a depth of 2 to 2.9 feet bgs from soil boring SB-07 and later submitted for PCB field screening analysis.

1155 hrs: START personnel completed soil boring activities at location SB-07. Soil boring SB-07 was completed to a depth of 4 feet bgs due to refusal. Team backfilled hole with sand and bentonite and relocated to next location. Boring activities began at soil boring location SB-09 located on the south-eastern area of the former building footprint in an area previously excavated during an EPA Removal action. In addition, boring activities began at soil boring location SB-04 located beneath the former transformer area located on the southern portion of the Jard property.

1210 hrs: Soil/source sample SB-09A (Sample #: JCS-140) was collected using a Geoprobe macrocore from a depth of 2.9 to 3.4 feet bgs from soil boring SB-09 and later submitted for PCB field screening analysis.
In addition, soil/source sample SB-09B (Sample #: JCS-141) was collected using a Geoprobe macrocore from a depth of 3.4 to 4 feet bgs from soil boring SB-09 and later submitted for PCB field screening analysis.

1215 hrs: START Member Kelly decided to collect an additional sample from upper core section to obtain analyses throughout the core section. Soil/source sample SB-09C (Sample #: JCS-142) was collected using a Geoprobe macrocore from a depth of 1.7 to 2.9 feet bgs from soil boring SB-09 and later submitted for PCB field screening analysis.

1220 hrs: Soil/source sample SB-04A (Sample #: JCS-145) was collected using a Geoprobe macrocore from a depth of 1.1 to 1.3 feet bgs from soil boring SB-04 and later submitted for PCB field screening analysis.
In addition, soil/source sample SB-04B (Sample #: JCS-146) was collected using a Geoprobe macrocore from a depth of 1.3 to 2 feet bgs from soil boring SB-04 and later submitted for PCB field screening analysis.

1230 hrs: START personnel completed soil boring activities at location SB-04. Soil boring SB-04 was completed to a depth of 2 feet bgs due to refusal. Team backfilled hole with sand and bentonite and relocated to next location. Boring activities began at soil boring location SB-06 located on the south-western area of the former building footprint in an area previously excavated during an EPA Removal action.

1235 hrs: Soil/source sample SB-06A (Sample #: JCS-147) was collected using a Geoprobe macrocore from a depth of 2.3 to 3.3 feet bgs from soil boring SB-06 and later submitted for PCB field screening analysis.
In addition, soil/source sample SB-06B (Sample #: JCS-148) was collected using a Geoprobe macrocore from a depth of 3.3 to 4 feet bgs from soil boring SB-06 and later submitted for PCB field screening analysis.

1240 hrs: After reviewing the entire core, START Member Kelly decided to collect an additional sample from upper core section to obtain analyses throughout the core to represent various depths. Soil/source sample SB-06C (Sample #: JCS-149) was collected using a Geoprobe macrocore from a depth of 1.5 to 2.3 feet bgs from soil boring SB-06 and later submitted for PCB field screening analysis.

1245 hrs: START personnel completed soil boring activities at location SB-06. Soil boring SB-06 was completed to a depth of 4 feet bgs due to refusal. Team backfilled hole with sand and bentonite and relocated to next location.

1250 hrs: Soil/source sample SB-09D (Sample #: JCS-143) was collected using a Geoprobe macrocore from a depth of 7.4 to 8 feet bgs from soil boring SB-09 and later submitted for PCB field screening analysis.

1255 hrs: Soil/source sample SB-09E (Sample #: JCS-144) was collected using a Geoprobe macrocore from a depth of 10.1 to 11 feet bgs from soil boring SB-09 and later submitted for PCB field screening analysis.

1300 hrs: START personnel completed soil boring activities at location SB-09. Soil boring SB-09 was completed to a depth of 11 feet bgs. Team backfilled hole with sand and bentonite and relocated to next location. Boring activities began at soil boring location SB-08 located on the south-eastern area of the former building footprint in an area previously excavated during an EPA Removal action.

1345 hrs: Soil/source sample SB-08A (Sample #: JCS-150) was collected using a Geoprobe macrocore from a depth of 1.2 to 4 feet bgs from soil boring SB-08 and later submitted for PCB field screening analysis.

1350 hrs: Soil/source sample SB-08B (Sample #: JCS-151) was collected using a Geoprobe macrocore from a depth of 6.9 to 8 feet bgs from soil boring SB-08 and later submitted for PCB field screening analysis.

1400 hrs: Soil/source sample SB-08C (Sample #: JCS-152) was collected using a Geoprobe macrocore from a depth of 8.7 to 10 feet bgs from soil boring SB-08 and later submitted for PCB field screening analysis.
In addition, soil/source sample SB-08D (Sample #: JCS-153) was collected using a Geoprobe macrocore from a depth of 10 to 11 feet bgs from soil boring SB-08 and later submitted for PCB field screening analysis.

1410 hrs: START personnel completed soil boring activities at location SB-08. Soil boring SB-08 was completed to a depth of 11 feet bgs due to equipment issues (stuck). Team did not backfilled hole, will work to retrieve equipment later and backfill with sand and bentonite; relocated to next location. Boring activities began at soil boring location SB-10 located on the eastern edge of the former building footprint in an area previously excavated during an EPA Removal action.
In addition, soil/source sample SO-81A (Sample #: JCS-106) was collected with a hand auger at a depth of 0 to 18 inches bgs from an area along the northwestern boundary of the Jard property and later submitted for PCB field screening analysis.

1415 hrs: Soil/source sample SO-80A (Sample #: JCS-103) was collected with a hand auger at a depth of 0 to 18 inches bgs from an area along the northwestern boundary of the Jard property and later submitted for PCB field screening analysis.
In addition, soil/source sample SO-82A (Sample #: JCS-109) was collected with a hand auger at a depth of 0 to 18 inches bgs from an area along the northwestern boundary of the Jard property and later submitted for PCB field screening analysis.

1420 hrs: Soil/source sample SO-81B (Sample #: JCS-107) was collected with a hand auger at a depth of 18 to 36 inches bgs from an area along the northwestern boundary of the Jard property and later submitted for PCB field screening analysis.

1425 hrs: Soil/source sample SO-80B (Sample #: JCS-104) was collected with a hand auger at a depth of 18 to 30 inches bgs from an area along the northwestern boundary of the Jard property and later submitted for PCB field screening analysis.
In addition, soil/source sample SO-81C (Sample #: JCS-108) was collected with a hand auger at a depth of 36 to 54 inches bgs from an area along the northwestern boundary of the Jard property and later submitted for PCB field screening analysis.
In addition, soil/source sample SO-82B (Sample #: JCS-110) was collected with a hand auger at a depth of 18 to 30 inches bgs from an area along the northwestern boundary of the Jard property and later submitted for PCB field screening analysis.

1435 hrs: Soil/source sample SO-80C (Sample #: JCS-105) was collected with a hand auger at a depth of 30 to 40 inches bgs from an area along the northwestern boundary of the Jard property and later submitted for PCB field screening analysis.

1445 hrs: Soil/source sample SO-83A (Sample #: JCS-111) was collected with a hand auger at a depth of 0 to 12 inches bgs from an area along the northern boundary of the Jard property and later submitted for PCB field screening analysis.
In addition, soil/source sample SO-84A (Sample #: JCS-112) was collected with a hand auger at a depth of 0 to 18 inches bgs from an area along the northern boundary of the Jard property and later submitted for PCB field screening analysis.

1450 hrs: Soil/source sample SO-85A (Sample #: JCS-114) was collected with a hand auger at a depth of 0 to 12 inches bgs from an area along the northern boundary of the Jard property and later submitted for PCB field screening analysis.

1455 hrs: Soil/source sample SO-84B (Sample #: JCS-113) and soil/source sample field duplicate SO-102B (Sample #: JCS-207) were collected with a hand auger at a depth of 18 to 36 inches bgs from an area along the northern boundary of the Jard property and later submitted for PCB field screening analysis.

1500 hrs: Soil/source sample SO-85B (Sample #: JCS-115) and soil/source sample field duplicate SO-101B (Sample #: JCS-206) were collected with a hand auger at a depth of 12 to 24 inches bgs from an area along the northern boundary of the Jard property and later submitted for PCB field screening analysis.

1510 hrs: Soil/source sample SO-85C (Sample #: JCS-116) was collected with a hand auger at a depth of 24 to 30 inches from an area along the northern boundary of the Jard property and later submitted for PCB field screening analysis.
In addition, soil/source sample SO-86A (Sample #: JCS-117) was collected with a hand auger at a depth of 0 to 18 inches bgs from an area along the northern boundary of the Jard property and later submitted for PCB field screening analysis.
Soil/source sample SO-87A (Sample #: JCS-118) was collected with a hand auger at a depth of 0 to 18 inches bgs from an area along the northern boundary of the Jard property and later submitted for PCB field screening analysis.

1520 hrs: Soil/source sample SO-87B (Sample #: JCS-119) was collected with a hand auger at a depth of 18 to 36 inches bgs from an area along the northern boundary of the Jard property and later submitted for PCB field screening analysis.

1530 hrs: Soil/source sample SO-88A (Sample #: JCS-120) was collected with a hand auger at a depth of 0 to 18 inches bgs from an area along the eastern edge of the building footprint on the Jard property and later submitted for PCB field screening analysis.
In addition, soil/source sample SO-89A (Sample #: JCS-122) was collected with a hand auger at a depth of 0 to 12 inches bgs from the northeastern corner of the Jard property and later submitted for PCB field screening analysis.

1535 hrs: Soil/source sample SO-88B (Sample #: JCS-121) was collected with a hand auger at a depth of 18 to 30 inches bgs from along the eastern edge of the building footprint on the Jard property and later submitted for PCB field screening analysis.

1540 hrs: Soil/source sample SO-89B (Sample #: JCS-123) was collected with a hand auger at a depth of 12 to 24 inches bgs from the northeastern corner of the Jard property and later submitted for PCB field screening analysis.
In addition, soil/source sample SO-90A (Sample #: JCS-124) was collected with a hand auger at a depth of 0 to 18 inches bgs from along the eastern edge of the pile located on the eastern portion of the Jard property and later submitted for PCB field screening analysis.

1545 hrs: Soil/source sample SO-91A (Sample #: JCS-125) was collected with a hand auger at a depth of 0 to 10 inches from the northeastern corner of the Jard property and later submitted for PCB field screening analysis.
In addition, soil/source sample SB-10A (Sample #: JCS-154) was collected using a Geoprobe macrocore from a depth of 0.4 to 1.3 feet bgs from soil boring SB-10 and later submitted for PCB field screening analysis.

1600 hrs: START personnel completed soil boring activities at location SB-10. Soil boring SB-10 was completed to a depth of 2 feet bgs due to refusal. Team backfilled sample hole with sand and bentonite.
Soil/source sample SO-92A (Sample #: JCS-126) was collected with a hand auger at a depth of 0 to 8 inches from the northeastern corner of the Jard property and later submitted for PCB field screening analysis.

1615 hrs: Soil/source sample SO-93A (Sample #: JCS-127) was collected with a plastic scoop at a depth of 0 to 2 inches bgs from an area along the northeastern edge of the building footprint on the Jard property and later submitted for PCB field screening analysis.

1635 hrs: Equipment rinsate blank sample RB-06 (Sample #: JCW-020: CLP #: A4B09) was collected from hand auger sampling equipment (augers, scoops, etc.) associated with soil/source sampling activities.

1640 hrs: Equipment rinsate blank sample RB-07 (Sample #: JCW-021: CLP #: A4B10) was collected from the Geoprobe macrocore system sampling equipment and is associated with soil/source sampling activities.

1700 hrs: START personnel secured IDW drums, secured the site and departed the Jard property.

9 April 2013 (Tuesday) – Soil/Source and Surface Soil Sampling
Weather: Cloudy, high 50 to low 60 °F

0700 hrs: START members Kelly, Hornok, Bitzas, Ackerman, Dupree, Robinson, Saylor, and Sharp arrived at the Jard property. EPA SAM Martha Bosworth had previously arrived on-site. In addition, Chemist Clifford also arrived on-site.

0715 hrs: START HSC Kelly reviewed the site HASP and conducted a tailgate health and safety meeting for all on-site START personnel, including reviews of the physical hazards (uneven terrain, trips-slips-falls, heavy lifting, traffic, potential adverse weather conditions), chemical hazards (PCBs), Radiation (Not encountered previously but will be monitored) and biological hazards (ticks, poison ivy, animals). Personnel reviewed and signed the HASP documentation, as needed. START members completed calibration checks on air monitoring instrument; MultiRAE Plus, LEL, O2, H2S, CO, and PID meter. Background ambient readings: LEL = 0%; O_2 = 20.9%; H_2S = 0 ppm; CO = 0 ppm; and VOC = 0 ppm.
START Team established decontamination area and conduct decontamination of non-dedicated equipment. Non-dedicated equipment (augers, metal scoops, etc.) will be decontaminated after the collection of each sample, and prior to use for the collection of other samples.

0800 hrs: START members Kelly, Robinson, and Scesny began marking sample locations and documenting property features on the Park Street residential properties.

0810 hrs: Soil/source sample SO-95A (Sample #: JCS-185) was collected with a hand auger at a depth of 0 to 8 inches bgs from an area along the northwestern edge of the building footprint on the Jard property and later submitted for PCB field screening analysis.

0815 hrs: Soil/source sample SO-94A (Sample #: JCS-184) was collected with a hand auger at a depth of 0 to 12 inches bgs from an area along the northwestern edge of the building footprint on the Jard property and later submitted for PCB field screening analysis.

4122113
SDG# ~~A4B34~~ A4B24

HRS Reference #81

USEPA CLP Organics COC (LAB COPY)
DateShipped: 4/18/2013
CarrierName: FedEx
AirbillNo: 5141 2418 0938

CHAIN OF CUSTODY RECORD

Case #: 43392
Cooler #: DG Cans

COPY

No: 1-041713-114538-0006
Lab: ChemTech Consulting Group
Lab Contact: Divya Mehta
Lab Phone: 908-789-8900

Organic Sample #	Matrix/Sampler	Coll. Method	Analysis/Turnaround	Tag/Preservative/Bottles	Station Location	Collected	Inorganic Sample #	For Lab Use Only
A4B17	Soil/ START	Grab	CLP PCBs(21)	537 (4 C) (1)	JCS-130	04/01/2013 14:30		
A4B18	Soil/ START	Grab	CLP PCBs(21)	538 (4 C) (1)	JCS-136	04/01/2013 16:05		
A4B19	Soil/ START	Grab	CLP PCBs(21)	539 (4 C) (1)	JCS-138	04/08/2013 11:35		
A4B20	Soil/ START	Grab	CLP PCBs(21)	540 (4 C) (1)	JCS-148	04/08/2013 12:35		
A4B21	Soil/ START	Grab	CLP PCBs(21)	541 (4 C) (1)	JCS-153	04/08/2013 14:00		
A4B22	Soil/ START	Grab	CLP PCBs(21)	542 (4 C) (1)	JCS-143	04/08/2013 12:50		
A4B23	Soil/ START	Grab	CLP PCBs(21)	543 (4 C) (1)	JCS-006	04/03/2013 08:40		
A4B30	Soil/ START	Grab	CLP PCBs(21)	565 (4 C) (1)	JCS-046	04/04/2013 11:45		
A4B31	Soil/ START	Grab	CLP PCBs(21)	567 (4 C) (1)	JCS-048	04/04/2013 12:30		
A4B32	Soil/ START	Grab	CLP PCBs(21)	569 (4 C) (1)	JCS-061	04/04/2013 14:38		
A4B34	Soil/ START	Grab	CLP PCBs(21)	573 (4 C) (1)	JCS-183	04/04/2013 15:20		

Special Instructions: Samples shipped as dangerous goods due to elevated PCB concentrations noted in field screening analysis. Please combine these samples with samples shipped under Fedex Airbill # 5141 2418 0743, COC #: 1-041713-115310-0007 to create one SDG.

TEMP: 6°

Shipment for Case Complete? N

Samples Transferred From Chain of Custody #

Analysis Key: CLP PCBs=SOM01.2 Aroclors

Items/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished By	Date	Received by	Date	Time
Samples		4/18/13	Airbill # 5141 2418 0938	4/18/13	1340						
						Samples	Airbill # 5141 2418 0938		JOHN TENGCO	4/19/13	935

(A4B34 is last sample of this SDG #)

4/18/13

SDG # A4B24

HRS Reference #81

USEPA CLP Organics COC (LAB COPY)

DateShipped: 4/17/2013
CarrierName: FedEx
AirbillNo: 5141 2418 0743

CHAIN OF CUSTODY RECORD

COPY

Case #: 43392
Cooler #: MM1276

No: 1-041713-115310-0007

Lab: ChemTech Consulting Group
Lab Contact: Divya Mehta
Lab Phone: 908-789-8900

Organic Sample #	Matrix/Sampler	Coll. Method	Analysis/Turnaround	Tag/Preservative/Bottles	Station Location	Collected	Inorganic Sample #	For Lab Use Only
A4B24	Soil/ START	Grab	CLP PCBs(21)	544 (4 C) (1)	JCS-008	04/03/2013 08:55		
A4B25	Soil/ START	Grab	CLP PCBs(21)	553 (4 C) (1)	JCS-015	04/03/2013 10:40		
A4B26	Soil/ START	Grab	CLP PCBs(21)	556 (4 C) (1)	JCS-475	04/03/2013 10:40		
A4B27	Soil/ START	Grab	CLP PCBs(21)	558 (4 C) (1)	JCS-024	04/03/2013 11:50		
A4B28	Soil/ START	Grab	CLP PCBs(21)	560 (4 C) (1)	JCS-025	04/03/2013 11:55		
A4B29	Soil/ START	Grab	CLP PCBs(21), CLP PCBs(21)	562 (4 C), 563 (4 C) (2)	JCS-026	04/03/2013 12:00		
A4B33	Soil/ START	Grab	CLP PCBs(21)	571 (4 C) (1)	JCS-076	04/04/2013 15:20		
A4B35	Soil/ START	Grab	CLP PCBs(21)	575 (4 C) (1)	JCS-086	04/05/2013 08:45		
A4B56 PE	Soil/ START	Grab	CLP PCBs(21)	620 (4 C) (1)	JCS-478	04/17/2013 07:00		
A4B57 PE	Soil/ START	Grab	CLP PCBs(21)	621 (4 C) (1)	JCS-479	04/17/2013 07:00		

Sample(s) to be used for Lab QC: A4B29 - Special Instructions: Please combine with samples shipped under FedEx Airbill #: 5141 2418 0710, COC #: 1-041713-114538-0006 to form one sample delivery group.

Shipment for Case Complete? N

Samples Transferred From Chain of Custody #

Analysis Key: CLP PCBs=SOM01.2 Aroclors

Items/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished By	Date	Received by	Date	Time
Samples	C. Hannah	4/17/13	Airbill No. 5141 2418 0743	4/17/13	1300						
						Samples	Airbill # 5141 2418 0743		George Negron	4/18/13	945

Temp: 5°C

5/8/13 10

DG/ESAT

ORGANICS COMPLETE SDG FILE (CSF) INVENTORY SHEET

FORM DC-2

Yard company
Weston

LABORATORY NAME : CHEMTECH CONSULTING GROUP, INC.

CITY / STATE : MOUNTAINSIDE, NJ

CASE NO : 43392 SDG NO : A4B24

SDG NOs TO FOLLOW N/A N/A

MOD. REF. NO. : N/A N/A

CONTRACT NO : EPW11030

SOW NO : SOM 01.2

RECEIVED
MAY 09 2013
By

MAY 09 2013

All documents delivered in the Complete SDG File (CSF) must be original documents where possible.

		PAGE NOS: FROM	PAGE NOS: TO	CHECK LAB	CHECK USEPA/Weston
1.	Inventory Sheet (DC-2) (Do not number)				
2.	SDG Narrative	1	8	✓	✓
3.	SDG Cover Sheet/Traffic Report	9	11	✓	✓
4.	**Trace Volatiles Data**				
	a. QC Summary				
	Deuterated Monitoring Compound Recovery (Form II VOA-1 and VOA-2)	NA	NA	✓	✓
	Matrix Spike/Matrix Spike Duplicate Recover (Form III VOA) (if requested by USEPA Region)	NA	NA	✓	
	Method Blank Summary (Form IV VOA)	NA	NA	✓	
	GC/MS Instrument Performance Check (Form V VOA)	NA	NA	✓	
	Internal Standard Area and RT Summary (Form VIII VOA)	NA	NA	✓	
	b. Sample Data	NA	NA	✓	
	TCL Results - Organics Analysis Data Sheet (Form I VOA-1 and VOA-2)				
	Tentatively Identified Compounds (Form I VOA-TIC)				
	Reconstructed total ion chromatograms (RIC) for each sample				
	For each sample:				
	Raw Spectra and background-subtracted mass spectra of target compounds identified				
	Quantitation reports				
	Mass Spectra of all reported TICs with three best library matches				
	c. Standards Data (All Instruments)	NA	NA		
	Initial Calibration Data (Form VI VOA-1, VOA-2, VOA-3)			✓	
	RICs and Quantitaation Reports for all Standards				
	Continuing Calibration Data (Form VII VOA-1, VOA-2, VOA-3)				
	RICs and Quantitation Reports for all Standards				
	d. Raw/Quality Control				
	BFB	NA	NA	✓	
	Blank Data	NA	NA	✓	
	Matrix Spike/Matrix Spike Duplicate Data (if requested by USEPA Region)	NA	NA	✓	

ORGANICS COMPLETE SDG FILE (CSF) INVENTORY SHEET
FORM DC-2

CASE NO : 43392	SDG NO : A4B24	SDG NOs TO FOLLOW : N/A
N/A	N/A	MOD. REF. NO : N/A

e. Trace SIM Data (Place at the end of the Trace Volatiles Section	NA	NA		
[Form I VOA-SIM; Form II VOA-SIM1 and VOA-SIM2; Form IV-VOA-SIM; Form VI VOA-SIM; Form VII VOA-SIM; Form VIII VOA-SIM; and all raw data for QC, Samples, and Standards.]				
5. Low/Med Volatiles Data				
a. QC Summary				
Deuterated Monitoring Compound Recovery (Form II VOA-1, VOA-2, VOA-3, VOA-4)	NA	NA		
Matrix Spike/Matrix Spike Duplicate Recovery (Form III VOA-1 and VOA-2) (if requested by USEPA Region)	NA	NA		
Method Blank Summary (Form IV VOA)	NA	NA		
GC/MS Instrument Performance Check (Form V VOA)	NA	NA		
Internal Standard Area and RT Summary (Form VIII VOA)	NA	NA		
b. Sample Data	NA	NA		
TCL Results - Organics Analysis Data Sheet (Form I VOA-1 and VOA-2)				
Tentatively Identified Compounds (Form I VOA-TIC)				
Reconstructed total ion chromatograms (RIC) for each sample				
For each sample:				
Raw Spectra and background-subtracted mass spectra of target compounds identified				
Quantitation reports				
Mass Spectra of all reported TICs with three best library matches				
c. Standards Data (All Instruments	NA	NA		
Initial Calibration Data (Form VI VOA-1, VOA-2, VOA-3)				
RICs and Quantitation Reports for all Standards				
Continuing Calibration Data (Form VII VOA-1, VOA-2, VOA-3)				
RICs and Quantitation Reports for all Standards				
d. Raw/Quality Control (QC)Data				
BFB	NA	NA		
Blank Data	NA	NA		
Matrix Spike/Matrix Spike Duplicate Data (if requested by USEPA Region)	NA	NA		

ORGANICS COMPLETE SDG FILE (CSF) INVENTORY SHEET
FORM DC-2

CASE NO : 43392	SDG NO : A4B24	SDG NOs TO FOLLOW : N/A
N/A	N/A	MOD. REF. NO : N/A

6. **Semivolatiles Data**

a. QC Summary				
Deuterated Monitoring Compound Recovery (Form II SV-1, SV-2, SV-3, SV-4)	NA	NA		
Matrix Spike/Matrix Spike Duplicate Recovery Summary (Form III SV-1 and SV-2) (if requested by USEPA Region)	NA	NA		
Method Blank Summary (Form IV SV)	NA	NA		
GC/MS Instrument Performance Check (Form V SV)	NA	NA		
Internal Standard Area and RT Summary (Form VIII SV-1 and SV-2)	NA	NA		
b. Sample Data	NA	NA		
TCL Results - Organics Analysis Data Sheet (Form I SV-1 and SV-2)				
Tentatively Identified Compounds (Form I SV-TIC)				
Reconstructed total ion chromatograms (RIC) for each sample				
For each sample:	NA	NA		
Raw Spectra and background-subtracted mass spectra of target compounds				
Quantitation reports				
Mass Spectra of TICs with three best library matches				
GPC chromatograms (if GPC is r				
c. Standards Data (All Instruments)	NA	NA		
Initial Calibration Data (Form VI SV-1, SV-2, SV-3)				
RICs and Quantitation				
Continuing Calibration Data (Form VII SV-1, S				
RICs and Quantitation Reports for all Standards				
d. Raw (QC)Data				
DFTPP	NA	NA		
Blank Data	NA	NA		
MS/MSD Data (if requested by USEPA Region)	NA	NA		
e. Raw GPC Data	NA	NA		

ORGANICS COMPLETE SDG FILE (CSF) INVENTORY SHEET
FORM DC-2

CASE NO : 43392	SDG NO : A4B24	SDG NOs TO FOLLOW : N/A
N/A	N/A	MOD. REF. NO : N/A

Semivolatile SIM Data [Form I SV-SIM; Form II SV-SIM1 and SV-SIM2; Form III-SV-SIM1 and SV-SIM2 (if required; Form IV SV-SIM; Form VI SV-SIM; Form VII SV-SIM; Form VIII SV-SIM1 and SV-SIM2; and all raw data for QC, Samples, and Standards.]	NA	NA	↘	

7. **Pesticides Data**

a. QC Summary				
Surrogate Recovery Summary (Form II PEST-1 and PEST-2)	NA	NA	↘	✓
Matrix Spike/Matrix Spike Duplicate Recovery Summary (Form III PEST-1 and PEST-2)	NA	NA	↘	
Laboratory Control Sample Recovery (Form III PEST-3 and PEST-4)	NA	NA	↘	
Method Blank Summary (Form IV PEST)	NA	NA	↘	
b. Sample Data	NA	NA		
TCL Results - Organics Analysis Data Sheet (Form I PEST)			↘	
Chromatograms (Primary Column)				
Chromatograms from second GC column confirmation				
GC Integration report or data system printout				
Manual work sheets				
For Pesticides by GC/MS				
Copies of raw spectra and copies of background-subtracted mass spectra of target compounds (samples & standards)				
c. Standards Data	NA	NA		
Initial Calibration of Single Component Analytes (Form VI PEST-1 and PEST-2)			↘	
Toxaphene Initial Calibration (Form VI PEST-3 and PEST-4)				
Analyte Resolution Summary (Form VI PEST-5, per column)				
Performance Evaluation Mixture (Form VI PEST-6)				
Individual Standard Mixture A (Form VI PEST-7)				
Individual Standard Mixture B (Form VI PEST-8)				
Individual Standard Mixture C (Form VI PEST-9 and PEST-10)				
Calibration Verification Summary (Form VII PEST-1)				
Calibration Verification Summary (Form VII PEST-2)				

ORGANICS COMPLETE SDG FILE (CSF) INVENTORY SHEET
FORM DC-2

CASE NO : 43392	SDG NO : A4B24	SDG NOs TO FOLLOW : N/A
N/A	N/A	MOD. REF. NO : N/A

Calibration Verification Summary (Form VII PEST-3)				N/A
Calibration Verification Summary (Form VII PEST-4)				
Analytical Sequence (Form VIII PEST)				
Florisil Cartridge Check (Form IX PEST-1)				
Pesticide GPC Calibration (Form IX PEST-2)				
Identification Summary for Single Component Analytes (Form X PEST-1)				
Identification Summary for Toxaphene Form X PEST-2)				
Chromatograms and data system printouts				
A printout of Retention Times and corresponding peak areas or peak heights				
d. Raw QC Data				
Blank Data	NA	NA		
Matrix Spike/Matrix Spike Duplicate Data	NA	NA		
Laboratory Control Sample	NA	NA		
e. Raw GPC Data	NA	NA		
f. Raw Florisil Data	NA	NA		
8. Aroclor Data				
a. QC Summary				
Surrogate Recovery Summary (Form II ARO-1 and ARO-2)	12	13		
Matrix Spike/Matrix Spike Duplicate Summary (Form III ARO-1 and ARO-2)	14	17		
Laboratory Control Sample Recovery (Form III ARO-3 and ARO-4)	18	19		
Method Blank Summary (Form IV ARO)	20	21		
b. Sample Data	22	146		
TCL Results - Organics Analysis Data Sheet (Form I ARO)	NA	NA		
Chromatograms (Primary Column)	NA	NA		
Chromatograms from second GC column confirmation	NA	NA		
GC Integration report of data system printout	NA	NA		
Manual work sheets	NA	NA		
For Aroclors by GC/MS	NA	NA		

ORGANICS COMPLETE SDG FILE (CSF) INVENTORY SHEET
FORM DC-2

CASE NO : 43392	SDG NO : A4B24	SDG NOs TO FOLLOW : N/A
N/A	N/A	MOD. REF. NO : N/A

Copies of raw spectra and copies of background-subtracted mass spectra of target compounds (samples & standards)			✓	✓
c. Standards Data	147	318		
Aroclors Initial Calibration (Form VI ARO-1,ARO-2, and ARO-3)			✓	✓
Calibration Verification Summary (Form VII ARO-1)			✓	✓
Analytical Sequence (Form VIII ARO)			✓	✓
Identification Summary for Multicomponent Analytes (Form X ARO)			✓	✓
Chromatograms and data system printouts			✓	✓
A printout of Retention Times and corresponding peak areas or peak heights			✓	✓
d. Raw QC Data				
Blank Data	319	368	✓	✓
Matrix Spike/Matrix Spike Duplicate Data	369	390	✓	✓
Laboratory Control Sample (LCS) Data	391	402	✓	✓
e. Raw GPC Data (if performed)	NA	NA	✓	✓
9. Miscellaneous Data				
Original preparation and analysis forms or copies of preparation and analysis logbook pages	403	480	✓	✓
Internal sample and sample extract transfer chain-of-custody records	494	495	✓	✓
Screening records	NA	NA	✓	✓
All instrument output, including strip charts from screening activities (describe or list)				✓
10. EPA Shipping/Receiving Documents				
Airbills (No. of shipments 4)	481	484	✓	✓
Chain of Custody Records	485	486	✓	✓
Sample Tags	497	503	✓	✓
Sample Log-in Sheet (Lab & DC-1)	487	493	✓	✓
Miscellaneous Shipping/Receiving Records (describe or list)				

ORGANICS COMPLETE SDG FILE (CSF) INVENTORY SHEET
FORM DC-2

CASE NO : 43392	SDG NO : A4B24	SDG NOs TO FOLLOW : N/A
N/A	N/A	MOD. REF. NO : N/A

11. Internal Lab Sample Transfer Records and Tracking Sheets (describe or list)

Sample Transfer	494	495	✓	✓

12. Other Records (describe or list)

Telephone Communication Log	NA	NA	✓	✓
PE Instructions	496	497	✓	✓

13. Comments

Completed by: (CLP Lab)	M Idred V Reyes (Signature)	M Idred V. Reyes / DCO (Printed Name/Title)	5/8/13 (Date)
Verified by: (CLP Lab)	H Prajapati (Signature)	Himanshu Prajapati (Printed Name/Title)	05/08/13 (Date)
Audited by: (USEPA/Weston)	(Signature)	Bill Mahany Prin. Proj Scientist (Printed Name/Title)	5/30/13 (Date)

Site: Jard Company Inc
TDD: 12-10-0008
TASK: 0850

RECEIVED
MAY 09 2013
By

COPY

EPA NEW ENGLAND
COMPLETE SDG FILE
RECEIPT / TRANSFER FORM

HRS Reference #81

Case : 43392 SDG : A4B24

Receipt Date	Received By : Name	Init.	Affiliation	CSF Activity	Custody Seals Present / Intact	Released To	Date
05/09/13	Doris Guzman	DG	ESAT	Received for Transfer	(Y) N (Y) N	Weston	05/09/13
5/9/13	B. Mahany	BM	Weston	Sterge + Validation	(Y) N (Y) N		
					Y N Y N		
					Y N Y N		
					Y N Y N		
					Y N Y N		
					Y N Y N		
					Y N Y N		
					Y N Y N		
					Y N Y N		
					Y N Y N		
					Y N Y N		
					Y N Y N		

EPA-NE - DQO SUMMARY FORM

A separate Form should be completed for each sampling event. Refer to Attachment A for instructions on completing this form, Attachment B for a complete list of the parameter codes and Attachment C for an example of a completed form.

1. EPA Program: TSCA (CERCLA) RCRA DW NPDES CAA
Other:
Projected Date(s) of Sampling Spring (April/May) 2013
EPA Site Manager Martha Bosworth
EPA Case Team Members

Site Name Jard Company Inc
Site Location Bennington, Vermont
Assigned Site Latitude/Longitude 42° 53' 21.5" north/73° 11' 21.9" west
CERCLA Site/Spill Identifier No VTD048141741 (Include Operable Unit)
Phase: ERA SA/SI pre-RI RI (phase I, etc.) FS RD RA post-RA
(circle one) Other: Site Reassessment

2. QAPP Title and Revision Date Site Assessment Program Site Specific Quality Assurance Project Plan for Surface and Subsurface Soil/Source, Ground Water, and Sediment Sampling Jard Company Inc, Bennington, Vermont dated 11 January 2013
Approved by: Martha Bosworth Date of Approval: TBD
Title of Approving Official: Site Assessment Manager Organization*: EPA
*If other than EPA, record date approval authority was delegated:

EPA Oversight Project (circle one) Y (N) Type of EPA Oversight (circle one) PRP or FF Other:
Confirmatory Analysis for Field Screening (Y) N If EPA Oversight or Confirmatory: % splits TBD
Are comparability criteria documented? Y N

3. a.	Matrix Code[1]	SO	SO	SO	GW	GW	SD	SD	SD
b.	Parameter Code[2]	PCB Aroclors	PCB Aroclors	PCB Congeners	PCB Aroclors	PCB Congeners	PCB Aroclors	PCB Aroclors	PCB Congeners
c.	Preservation Code[3]	5	5	5	5	5	5	5	5
d.	Analytical Services Mechanism	DAS or CLP	DAS or CLP	CLP	DAS or CLP	DAS or CLP	DAS or CLP	DAS or CLP	CLP
e.	No. of Sample Locations	65	28	2	21	2	60	60	60
	Field QC:								
f.	Field Duplicate Pairs	4	2		2	5	5	5	5
g.	Equipment Blanks	See RB	See RB	See RB	See RB	See RB	See RB	See RB	See RB
h.	VOA Trip Blanks	0	0	0	0	0	0	0	0
i.	Cooler Temperature Blanks	1 per cooler	1 per cooler	1 per cooler	1 per cooler	1 per cooler	1 per cooler	1 per cooler	1 per cooler
j.	Bottle Blanks	0	0	0	0	0	0	0	0
k.	Other:								
l.	PES sent to Laboratory	NA	6	TBD	3	TBD	NA	3	TBD
	Laboratory QC:								
m.	Reagent Blank	0	0	0	0	0	0	0	0
n.	Duplicate	0	0	0	0	0	0	0	0
o.	Matrix Spike	0	2	0	1	0	1	0	0
p.	Matrix Spike Duplicate	0	2	0	1	0	1	0	0
q.	Other:								

4. Site Information
Site Dimensions Approximately 11.26 acres
List all potentially contaminated matrices Surface and subsurface soil, sediment, ground water, and residential surface soil
Range of Depth to Groundwater greater than 5 feet
Soil Types: ~~Surface~~ ~~Subsurface~~ Other:
Sediment Types: Stream Pond Estuary Wetland Other: Expected Soil/Sediment Moisture Content: ~~High~~ (Low)

1. EPA Program: TSCA (CERCLA) RCRA DW NPDES CAA
Other:
Projected Date(s) of Sampling Spring (April/May) 2013
EPA Site Manager Martha Bosworth
EPA Case Team Members

Site Name Jard Company Inc
Site Location Bennington, Vermont
Assigned Site Latitude/Longitude 42° 53' 21.5" north/73° 11' 21.9" west
CERCLA Site/Spill Identifier No VTD048141741 (Include Operable Unit)
Phase: ERA SA/SI pre-RI RI (phase I, etc.) FS RD RA post-RA
(circle one) (Other: Site Reassessment)

2. QAPP Title and Revision Date Site Assessment Program Site Specific Quality Assurance Project Plan for Surface and Subsurface Soil/Source, Ground Water, and Sediment Sampling Jard Company Inc, Bennington, Vermont dated 11 January 2013
Approved by: Martha Bosworth Date of Approval: TBD
Title of Approving Official: Site Assessment Manager Organization*: EPA
*If other than EPA, record date approval authority was delegated:

EPA Oversight Project (circle one) Y (N) Type of EPA Oversight (circle one) PRP or FF Other:
Confirmatory Analysis for Field Screening (Y) N If EPA Oversight or Confirmatory: % splits TBD
Are comparability criteria documented? Y N

3. a.	Matrix Code[1]	SS	SS	SS	RB				
b.	Parameter Code[2]	PCB Aroclors	PCB Aroclors	PCB Congeners	PCB Aroclors				
c.	Preservation Code[3]	5	5	5	5				
d.	Analytical Services Mechanism	DAS or CLP	DAS or CLP	CLP	CLP Non-RAS				
e.	No. of Sample Locations	125	38	2	21				
	Field QC:								
f.	Field Duplicate Pairs	7	2		0				
g.	Equipment Blanks	See RB	See RB	See RB	0				
h.	VOA Trip Blanks	0	0	0	0				
i.	Cooler Temperature Blanks	1 per cooler	1 per cooler	1 per cooler	1 per cooler				
j.	Bottle Blanks	0	0	0	0				
k.	Other:								
l.	PES sent to Laboratory	NA	6	TBD	0				
	Laboratory QC:								
m.	Reagent Blank	0	0	0	0				
n.	Duplicate	0	0	0	0				
o.	Matrix Spike	0	2	0	0				
p.	Matrix Spike Duplicate	0	2	0					
q.	Other:								

4. Site Information
Site Dimensions Approximately 11.26 acres
List all potentially contaminated matrices Surface and subsurface soil, sediment, ground water, and residential surface soil
Range of Depth to Groundwater greater than 5 feet
Soil Types: Surface Subsurface Other:
Sediment Types: Stream Pond Estuary Wetland Other: Expected Soil/Sediment Moisture Content: High Low

When multiple matrices will be sampled during a sampling event, complete Sections 5-10 for each matrix. Matrix Code[1] SO

5. Data Use (circle all that apply) Site Investigation/Assessment PRP Determination Removal Actions
Nature and Extent of Contamination Human and/or Ecological Risk Assessment Remediation Alternatives
Engineering Design Remedial Action
Post-Remedial Action (quarterly monitoring) Other:

Draft DQO Summary Form 11/96

6. Summarize DQOs: Collect surface and subsurface soil/source samples from the identified source area (capped former building footprint and excavated staged material) on the property for PCB Aroclors field screening and fixed based laboratory analysis in source areas on the Jard Company Inc property. A subset of samples will be submitted for fixed laboratory analysis with a smaller subset submitted for PCB Congener analysis.

Complete Table if applicable

COCs	Action Levels	Analytical Method-Quantitation Limits
PCB Aroclors (Field Screening)	Above Background (Assumed to be ND)	0.2 mg/Kg
PCB Aroclors (Fixed Lab)	Above Background (Assumed to be ND)	33 ug/kg
PCB Congerners	Above Background (Assumed to be ND)	20 to 100 ng/Kg

7. Sampling Method (circle technique) Bailer Low flow pump (Region I method: Yes No) Peristaltic Pump
Positive Displacement Pump Faucet or Spigot Other:
Split Spoon Dredge Trowel (Other: Direct sampling)

Sampling Procedures (SOP name, No., Rev. #, and date)
List Background Sample Locations NA for source samples
Circle: Grab or Composite
"Hot spots" sampled: (Yes) No

8. Field Data (circle) ORP pH Specific Conductance Dissolved O_2 Temperature Turbidity
Other:

9. Analytical Methods and Parameters

Method title/SOP name	Method/SOP Identification number	Revision Date	Target Parameters (VOA, SV, Pest/PCB, Metals, etc.)
PCB Aroclors (Field Screening)	EIA-FLDPCB2.SOP		PCBs
PCB Aroclors	SOM01.2 or DAS Equivalent		PCBs
PCB Congeners	CBC01.0		PCB Congeners

10. Validation Criteria (circle one) 1. Region I, EPA-NE Data Validation Functional Guidelines for Evaluating Environmental Analyses, Part II, III or IV
2. Other Approved Validation Criteria:
Validation Tier (circle one) I (II) III Partial Tier III:
Company/Organization Performing Data Validation Weston Solutions, Inc./START III (Prime) or Subcontractor (circle one)

11. Company Name Weston Solutions, Inc. Contract Number EP-W-05-042
Contract Name (e.g. START, RACS, etc.) START III Work Assignment No. 20114-081-998-0850
Person Completing Form/Title G. Hornok/Lead Project Scientist Date of DQO Summary Form Completion 11 January 2013

When multiple matrices will be sampled during a sampling event, complete Sections 5-10 for each matrix. Matrix Code[1] GW

5. Data Use (circle all that apply) Site Investigation/Assessment PRP Determination Removal Actions
Nature and Extent of Contamination Human and/or Ecological Risk Assessment Remediation Alternatives
Engineering Design Remedial Action
Post-Remedial Action (quarterly monitoring) Other:

Draft DQO Summary Form 11/96

6. Summarize DQOs: Collect ground water samples from ground water monitoring wells previously installed on and off the property for PCB Aroclors fixed based laboratory analysis. A subset of samples will be submitted for PCB Congener analysis.

Complete Table if applicable

COCs	Action Levels	Analytical Method-Quantitation Limits
PCB Aroclors (Fixed Lab)	Above Background (Assumed to be ND)	1.0 µg/L
PCB Congeners	Above Background (Assumed to be ND)	100 to 1,000 pg/L

7. Sampling Method (circle technique) Bailer Low flow pump (Region I method: Yes No) Peristaltic Pump
Positive Displacement Pump Faucet or Spigot Other:
Split Spoon Dredge Trowel Other:

Sampling Procedures (SOP name, No., Rev. #, and date)
List Background Sample Locations Ground Water monitoring wells TBD
Circle: Grab or Composite
"Hot spots" sampled: Yes No

8. Field Data (circle) ORP pH Specific Conductance Dissolved O_2 Temperature Turbidity
Other:

9. Analytical Methods and Parameters

Method title/SOP name	Method/SOP Identification number	Revision Date	Target Parameters (VOA, SV, Pest/PCB, Metals, etc.)
PCB Aroclors	SOM01.2 or DAS Equivalent		PCBs
PCB Congeners	CBC01.0		PCB Congeners

10. Validation Criteria (circle one) 1. Region I, EPA-NE Data Validation Functional Guidelines for Evaluating Environmental Analyses, Part II, III or IV
2. Other Approved Validation Criteria:
Validation Tier (circle one) I II III Partial Tier III:
Company/Organization Performing Data Validation Weston Solutions, Inc./START III Prime or Subcontractor (circle one)

11. Company Name Weston Solutions, Inc. Contract Number EP-W-05-042
Contract Name (e.g. START, RACS, etc.) START III Work Assignment No. 20114-081-998-0850
Person Completing Form/Title G. Hornok/Lead Project Scientist Date of DQO Summary Form Completion 11 January 2013

When multiple matrices will be sampled during a sampling event, complete Sections 5-10 for each matrix. Matrix Code[1] SD

5. Data Use (circle all that apply) Site Investigation/Assessment PRP Determination Removal Actions
Nature and Extent of Contamination Human and/or Ecological Risk Assessment Remediation Alternatives
Engineering Design Remedial Action
Post-Remedial Action (quarterly monitoring) Other:

Draft DQO Summary Form 11/96

6. Summarize DQOs: Collect sediment samples from a wetland located west of Park Street for PCB Aroclors field screening and fixed based laboratory analysis. A subset of samples will be submitted for fixed laboratory analysis with a smaller subset submitted for PCB Congener analysis.

Complete Table if applicable

COCs	Action Levels	Analytical Method-Quantitation Limits
PCB Aroclors (Field Screening)	Above Background (Assumed to be ND)	0.2 mg/Kg
PCB Aroclors (Fixed Lab)	Above Background (Assumed to be ND)	33 ug/kg
PCB Congerners	Above Background (Assumed to be ND)	20 to 100 ng/Kg

7. Sampling Method (circle technique) Bailer Low flow pump (Region I method: Yes No) Peristaltic Pump
Positive Displacement Pump Faucet or Spigot Other:
Split Spoon Dredge Trowel Other: Direct sampling

Sampling Procedures (SOP name, No., Rev. #, and date)
List Background Sample Locations Wetalnd area northeast of the Jard Company Inc property
Circle: Grab or Composite
"Hot spots" sampled: Yes No

8. Field Data (circle) ORP pH Specific Conductance Dissolved O_2 Temperature Turbidity
Other:

9. Analytical Methods and Parameters

Method title/SOP name	Method/SOP Identification number	Revision Date	Target Parameters (VOA, SV, Pest/PCB, Metals, etc.)
PCB Aroclors (Field Screening)	SOM01.2		PCBs
PCB Aroclors	SOM01.2 or DAS Equivalent		PCBs
Total Metals (including Hg)	CBC01.0		PCB Congeners

10. Validation Criteria (circle one) 1. Region I, EPA-NE Data Validation Functional Guidelines for Evaluating Environmental Analyses, Part II, III or IV
2. Other Approved Validation Criteria:
Validation Tier (circle one) I II III Partial Tier III:
Company/Organization Performing Data Validation Weston Solutions, Inc./START III (Prime or Subcontractor (circle one)

11. Company Name Weston Solutions, Inc. Contract Number EP-W-05-042
Contract Name (e.g. START, RACS, etc.) START III Work Assignment No. 20114-081-998-0850
Person Completing Form/Title G. Hornok/Lead Project Scientist Date of DQO Summary Form Completion 11 January 2013

When multiple matrices will be sampled during a sampling event, complete Sections 5-10 for each matrix. Matrix Code[1] SS

5. Data Use (circle all that apply) Site Investigation/Assessment PRP Determination Removal Actions
Nature and Extent of Contamination Human and/or Ecological Risk Assessment Remediation Alternatives
Engineering Design Remedial Action
Post-Remedial Action (quarterly monitoring) Other:

Draft DQO Summary Form 11/96

6. Summarize DQOs: Collect surface soil samples from residential properties downgradient of the Jard Company Inc property and within 200 feet of the residences for PCB Aroclors field screening and fixed based laboratory analysis in source areas on the Jard Company Inc property. A subset of samples will be submitted for fixed laboratory analysis with a smaller subset submitted for PCB Congener analysis.

Complete Table if applicable

COCs	Action Levels	Analytical Method-Quantitation Limits
PCB Aroclors (Field Screening)	Above Background (Assumed to be ND)	0.2 mg/Kg
PCB Aroclors (Fixed Lab)	Above Background (Assumed to be ND)	33 ug/kg
PCB Congerners	Above Background (Assumed to be ND)	20 to 100 ng/Kg

7. Sampling Method (circle technique) Bailer Low flow pump (Region I method: Yes No) Peristaltic Pump
Positive Displacement Pump Faucet or Spigot Other:
Split Spoon Dredge Trowel Other: Direct sampling

Sampling Procedures (SOP name, No., Rev. #, and date)
List Background Sample Locations Residential properties located north of the Jard Company Inc property
Circle: Grab or Composite
"Hot spots" sampled: Yes No

8. Field Data (circle) ORP pH Specific Conductance Dissolved O_2 Temperature Turbidity
Other:

9. Analytical Methods and Parameters

Method title/SOP name	Method/SOP Identification number	Revision Date	Target Parameters (VOA, SV, Pest/PCB, Metals, etc.)
PCB Aroclors (Field Screening)	SOM01.2		PCBs
PCB Aroclors	SOM01.2 or DAS Equivalent		PCBs
Total Metals (including Hg)	CBC01.0		PCB Congeners

10. Validation Criteria (circle one) 1. Region I, EPA-NE Data Validation Functional Guidelines for Evaluating Environmental Analyses, Part II, III or IV
2. Other Approved Validation Criteria:
Validation Tier (circle one) I II III Partial Tier III:
Company/Organization Performing Data Validation Weston Solutions, Inc./START III Prime or Subcontractor (circle one)

11. Company Name Weston Solutions, Inc. Contract Number EP-W-05-042
Contract Name (e.g. START, RACS, etc.) START III Work Assignment No. 20114-081-998-0850
Person Completing Form/Title G. Hornok/Lead Project Scientist Date of DQO Summary Form Completion 11 January 2013

Matrix Codes[1] - Refer to Attachment B, Part I
Parameter Codes[2] - Refer to Attachment B, Part II

Preservation Codes[3]

1.	HCl to pH ≤ 2	7.	$K_2Cr_2O_7$
2.	HNO_3	8.	Freeze
3.	$NaHSO_4$	9.	Room Temperature (avoid excessive heat)
4.	H_2SO_4	10.	Other (Specify)
5.	Cool @ 4C (± 2)	N.	Not preserved
6.	NaOH		

* - To supplement Matrix Codes and/or Parameter Codes contact the QA Unit

Attachment C

Original Analytical Results (Form I's)
Case No. 43392; SDG No. A4B24

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

A4B17

Lab Name: Chemtech Contract: EPW11030

Lab Code: CHEM Case No.: 43392 Mod. Ref No.: SDG No.: A4B24

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: E1902-13

Sample wt/vol: 30.0 (g/mL) g Lab File ID: PB004942.D

% Moisture: 16 Decanted:(Y/N) N Date Received: 04/19/2013

Extraction:(Type) SOXH Date Extracted: 04/19/2013

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 04/26/2013

Injection Volume: 1.0 (uL) GPC Factor: 1.0 Dilution Factor: 100.0

GPC Cleanup:(Y/N) N pH: 6.12 Sulfur Cleanup:(Y/N) N

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
12674-11-2	Aroclor-1016	3900	U
11104-28-2	Aroclor-1221	3900	U
11141-16-5	Aroclor-1232	3900	U
53469-21-9	Aroclor-1242	190000	E
12672-29-6	Aroclor-1248	3900	U
11097-69-1	Aroclor-1254	3900	U
11096-82-5	Aroclor-1260	3900	U
37324-23-5	Aroclor-1262	3900	U
11100-14-4	Aroclor-1268	3900	U

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

A4B17DL

Lab Name: Chemtech Contract: EPW11030

Lab Code: CHEM Case No.: 43392 Mod. Ref No.: SDG No.: A4B24

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: E1902-13DL

Sample wt/vol: 30.0 (g/mL) g Lab File ID: PB004943.D

% Moisture: 16 Decanted:(Y/N) N Date Received: 04/19/2013

Extraction:(Type) SOXH Date Extracted: 04/19/2013

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 04/26/2013

Injection Volume: 1.0 (uL) GPC Factor: 1.0 Dilution Factor: 1000.0

GPC Cleanup:(Y/N) N pH: 6.12 Sulfur Cleanup:(Y/N) N

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
12674-11-2	Aroclor-1016	39000	U
11104-28-2	Aroclor-1221	39000	U
11141-16-5	Aroclor-1232	39000	U
53469-21-9	Aroclor-1242	280000	D
12672-29-6	Aroclor-1248	39000	U
11097-69-1	Aroclor-1254	39000	U
11096-82-5	Aroclor-1260	39000	U
37324-23-5	Aroclor-1262	39000	U
11100-14-4	Aroclor-1268	39000	U

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

A4B18

Lab Name: Chemtech Contract: EPW11030

Lab Code: CHEM Case No.: 43392 Mod. Ref No.: SDG No.: A4B24

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: E1902-14

Sample wt/vol: 30.0 (g/mL) g Lab File ID: PB004944.D

% Moisture: 6.5 Decanted:(Y/N) N Date Received: 04/19/2013

Extraction:(Type) SOXH Date Extracted: 04/19/2013

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 04/26/2013

Injection Volume: 1.0 (uL) GPC Factor: 1.0 Dilution Factor: 100.0

GPC Cleanup:(Y/N) N pH: 6.05 Sulfur Cleanup:(Y/N) N

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
12674-11-2	Aroclor-1016	3500	U
11104-28-2	Aroclor-1221	3500	U
11141-16-5	Aroclor-1232	3500	U
53469-21-9	Aroclor-1242	550000	E
12672-29-6	Aroclor-1248	3500	U
11097-69-1	Aroclor-1254	3500	U
11096-82-5	Aroclor-1260	3500	U
37324-23-5	Aroclor-1262	3500	U
11100-14-4	Aroclor-1268	3500	U

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

A4B18DL

Lab Name: Chemtech Contract: EPW11030

Lab Code: CHEM Case No.: 43392 Mod. Ref No.: SDG No.: A4B24

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: E1902-14DL

Sample wt/vol: 30.0 (g/mL) g Lab File ID: PB005131.D

% Moisture: 6.5 Decanted:(Y/N) N Date Received: 04/19/2013

Extraction:(Type) SOXH Date Extracted: 04/19/2013

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 05/02/2013

Injection Volume: 1.0 (uL) GPC Factor: 1.0 Dilution Factor: 20000.0

GPC Cleanup:(Y/N) N pH: 6.05 Sulfur Cleanup:(Y/N) N

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
12674-11-2	Aroclor-1016	700000	U
11104-28-2	Aroclor-1221	700000	U
11141-16-5	Aroclor-1232	700000	U
53469-21-9	Aroclor-1242	4800000	D
12672-29-6	Aroclor-1248	700000	U
11097-69-1	Aroclor-1254	700000	U
11096-82-5	Aroclor-1260	700000	U
37324-23-5	Aroclor-1262	700000	U
11100-14-4	Aroclor-1268	700000	U

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

A4B19

Lab Name: Chemtech Contract: EPW11030

Lab Code: CHEM Case No.: 43392 Mod. Ref No.: SDG No.: A4B24

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: E1902-15

Sample wt/vol: 30.1 (g/mL) g Lab File ID: PB004946.D

% Moisture: 9.8 Decanted:(Y/N) N Date Received: 04/19/2013

Extraction:(Type) SOXH Date Extracted: 04/19/2013

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 04/26/2013

Injection Volume: 1.0 (uL) GPC Factor: 1.0 Dilution Factor: 1.0

GPC Cleanup:(Y/N) N pH: 10.16 Sulfur Cleanup:(Y/N) N

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
12674-11-2	Aroclor-1016	37	U
11104-28-2	Aroclor-1221	37	U
11141-16-5	Aroclor-1232	37	U
53469-21-9	Aroclor-1242	770	
12672-29-6	Aroclor-1248	37	U
11097-69-1	Aroclor-1254	37	U
11096-82-5	Aroclor-1260	37	U
37324-23-5	Aroclor-1262	37	U
11100-14-4	Aroclor-1268	37	U

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

A4B19DL

Lab Name: Chemtech Contract: EPW11030

Lab Code: CHEM Case No.: 43392 Mod. Ref No.: SDG No.: A4B24

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: E1902-15DL

Sample wt/vol: 30.1 (g/mL) g Lab File ID: PB004947.D

% Moisture: 9.8 Decanted:(Y/N) N Date Received: 04/19/2013

Extraction:(Type) SOXH Date Extracted: 04/19/2013

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 04/26/2013

Injection Volume: 1.0 (uL) GPC Factor: 1.0 Dilution Factor: 2.0

GPC Cleanup:(Y/N) N pH: 10.16 Sulfur Cleanup:(Y/N) N

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
12674-11-2	Aroclor-1016	73	U
11104-28-2	Aroclor-1221	73	U
11141-16-5	Aroclor-1232	73	U
53469-21-9	Aroclor-1242	820	D
12672-29-6	Aroclor-1248	73	U
11097-69-1	Aroclor-1254	73	U
11096-82-5	Aroclor-1260	73	U
37324-23-5	Aroclor-1262	73	U
11100-14-4	Aroclor-1268	73	U

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

A4B20

Lab Name: Chemtech Contract: EPW11030

Lab Code: CHEM Case No.: 43392 Mod. Ref No.: SDG No.: A4B24

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: E1902-16

Sample wt/vol: 30.1 (g/mL) g Lab File ID: PB004948.D

% Moisture: 9.3 Decanted:(Y/N) N Date Received: 04/19/2013

Extraction:(Type) SOXH Date Extracted: 04/19/2013

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 04/26/2013

Injection Volume: 1.0 (uL) GPC Factor: 1.0 Dilution Factor: 1.0

GPC Cleanup:(Y/N) N pH: 8.23 Sulfur Cleanup:(Y/N) N

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
12674-11-2	Aroclor-1016	36	U
11104-28-2	Aroclor-1221	36	U
11141-16-5	Aroclor-1232	36	U
53469-21-9	Aroclor-1242	1600	E
12672-29-6	Aroclor-1248	36	U
11097-69-1	Aroclor-1254	36	U
11096-82-5	Aroclor-1260	36	U
37324-23-5	Aroclor-1262	36	U
11100-14-4	Aroclor-1268	36	U

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

A4B20DL

Lab Name: Chemtech Contract: EPW11030

Lab Code: CHEM Case No.: 43392 Mod. Ref No.: SDG No.: A4B24

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: E1902-16DL

Sample wt/vol: 30.1 (g/mL) g Lab File ID: PB004949.D

% Moisture: 9.3 Decanted:(Y/N) N Date Received: 04/19/2013

Extraction:(Type) SOXH Date Extracted: 04/19/2013

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 04/26/2013

Injection Volume: 1.0 (uL) GPC Factor: 1.0 Dilution Factor: 10.0

GPC Cleanup:(Y/N) N pH: 8.23 Sulfur Cleanup:(Y/N) N

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
12674-11-2	Aroclor-1016	360	U
11104-28-2	Aroclor-1221	360	U
11141-16-5	Aroclor-1232	360	U
53469-21-9	Aroclor-1242	1900	D
12672-29-6	Aroclor-1248	360	U
11097-69-1	Aroclor-1254	360	U
11096-82-5	Aroclor-1260	360	U
37324-23-5	Aroclor-1262	360	U
11100-14-4	Aroclor-1268	360	U

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

A4B21

Lab Name: Chemtech Contract: EPW11030

Lab Code: CHEM Case No.: 43392 Mod. Ref No.: SDG No.: A4B24

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: E1902-17

Sample wt/vol: 30.1 (g/mL) g Lab File ID: PB004950.D

% Moisture: 9.0 Decanted:(Y/N) N Date Received: 04/19/2013

Extraction:(Type) SOXH Date Extracted: 04/19/2013

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 04/26/2013

Injection Volume: 1.0 (uL) GPC Factor: 1.0 Dilution Factor: 100.0

GPC Cleanup:(Y/N) N pH: 6.48 Sulfur Cleanup:(Y/N) N

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
12674-11-2	Aroclor-1016	3600	U
11104-28-2	Aroclor-1221	3600	U
11141-16-5	Aroclor-1232	3600	U
53469-21-9	Aroclor-1242	660000	E
12672-29-6	Aroclor-1248	3600	U
11097-69-1	Aroclor-1254	3600	U
11096-82-5	Aroclor-1260	3600	U
37324-23-5	Aroclor-1262	3600	U
11100-14-4	Aroclor-1268	3600	U

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

A4B21DL

Lab Name: Chemtech Contract: EPW11030

Lab Code: CHEM Case No.: 43392 Mod. Ref No.: SDG No.: A4B24

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: E1902-17DL

Sample wt/vol: 30.1 (g/mL) g Lab File ID: PB005120.D

% Moisture: 9.0 Decanted:(Y/N) N Date Received: 04/19/2013

Extraction:(Type) SOXH Date Extracted: 04/19/2013

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 05/01/2013

Injection Volume: 1.0 (uL) GPC Factor: 1.0 Dilution Factor: 2000.0

GPC Cleanup:(Y/N) N pH: 6.48 Sulfur Cleanup:(Y/N) N

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
12674-11-2	Aroclor-1016	72000	U
11104-28-2	Aroclor-1221	72000	U
11141-16-5	Aroclor-1232	72000	U
53469-21-9	Aroclor-1242	730000	D
12672-29-6	Aroclor-1248	72000	U
11097-69-1	Aroclor-1254	72000	U
11096-82-5	Aroclor-1260	72000	U
37324-23-5	Aroclor-1262	72000	U
11100-14-4	Aroclor-1268	72000	U

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

A4B22

Lab Name: Chemtech Contract: EPW11030

Lab Code: CHEM Case No.: 43392 Mod. Ref No.: SDG No.: A4B24

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: E1902-18

Sample wt/vol: 30.1 (g/mL) g Lab File ID: PB004957.D

% Moisture: 7.6 Decanted:(Y/N) N Date Received: 04/19/2013

Extraction:(Type) SOXH Date Extracted: 04/19/2013

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 04/26/2013

Injection Volume: 1.0 (uL) GPC Factor: 1.0 Dilution Factor: 1.0

GPC Cleanup:(Y/N) N pH: 6.67 Sulfur Cleanup:(Y/N) N

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
12674-11-2	Aroclor-1016	36	U
11104-28-2	Aroclor-1221	36	U
11141-16-5	Aroclor-1232	36	U
53469-21-9	Aroclor-1242	12000	E
12672-29-6	Aroclor-1248	36	U
11097-69-1	Aroclor-1254	36	U
11096-82-5	Aroclor-1260	36	U
37324-23-5	Aroclor-1262	36	U
11100-14-4	Aroclor-1268	36	U

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

A4B22DL

Lab Name: Chemtech Contract: EPW11030

Lab Code: CHEM Case No.: 43392 Mod. Ref No.: SDG No.: A4B24

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: E1902-18DL

Sample wt/vol: 30.1 (g/mL) g Lab File ID: PB004958.D

% Moisture: 7.6 Decanted:(Y/N) N Date Received: 04/19/2013

Extraction:(Type) SOXH Date Extracted: 04/19/2013

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 04/26/2013

Injection Volume: 1.0 (uL) GPC Factor: 1.0 Dilution Factor: 100.0

GPC Cleanup:(Y/N) N pH: 6.67 Sulfur Cleanup:(Y/N) N

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
12674-11-2	Aroclor-1016	3600	U
11104-28-2	Aroclor-1221	3600	U
11141-16-5	Aroclor-1232	3600	U
53469-21-9	Aroclor-1242	40000	D
12672-29-6	Aroclor-1248	3600	U
11097-69-1	Aroclor-1254	3600	U
11096-82-5	Aroclor-1260	3600	U
37324-23-5	Aroclor-1262	3600	U
11100-14-4	Aroclor-1268	3600	U

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

A4B23

Lab Name: Chemtech Contract: EPW11030

Lab Code: CHEM Case No.: 43392 Mod. Ref No.: SDG No.: A4B24

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: E1902-19

Sample wt/vol: 30.0 (g/mL) g Lab File ID: PB004924.D

% Moisture: 15 Decanted:(Y/N) N Date Received: 04/19/2013

Extraction:(Type) SOXH Date Extracted: 04/19/2013

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 04/25/2013

Injection Volume: 1.0 (uL) GPC Factor: 1.0 Dilution Factor: 1.0

GPC Cleanup:(Y/N) N pH: 8.12 Sulfur Cleanup:(Y/N) N

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
12674-11-2	Aroclor-1016	39	U
11104-28-2	Aroclor-1221	39	U
11141-16-5	Aroclor-1232	39	U
53469-21-9	Aroclor-1242	150	
12672-29-6	Aroclor-1248	39	U
11097-69-1	Aroclor-1254	39	U
11096-82-5	Aroclor-1260	39	U
37324-23-5	Aroclor-1262	39	U
11100-14-4	Aroclor-1268	39	U

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

A4B24

Lab Name: Chemtech Contract: EPW11030

Lab Code: CHEM Case No.: 43392 Mod. Ref No.: SDG No.: A4B24

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: E1902-01

Sample wt/vol: 30.0 (g/mL) g Lab File ID: PB004914.D

% Moisture: 20 Decanted:(Y/N) N Date Received: 04/18/2013

Extraction:(Type) SOXH Date Extracted: 04/19/2013

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 04/25/2013

Injection Volume: 1.0 (uL) GPC Factor: 1.0 Dilution Factor: 1.0

GPC Cleanup:(Y/N) N pH: 7.48 Sulfur Cleanup:(Y/N) N

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
12674-11-2	Aroclor-1016	41	U
11104-28-2	Aroclor-1221	41	U
11141-16-5	Aroclor-1232	41	U
53469-21-9	Aroclor-1242	41	U
12672-29-6	Aroclor-1248	41	U
11097-69-1	Aroclor-1254	41	U
11096-82-5	Aroclor-1260	41	U
37324-23-5	Aroclor-1262	41	U
11100-14-4	Aroclor-1268	41	U

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

A4B25

Lab Name: Chemtech Contract: EPW11030

Lab Code: CHEM Case No.: 43392 Mod. Ref No.: SDG No.: A4B24

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: E1902-02

Sample wt/vol: 30.1 (g/mL) g Lab File ID: PB004915.D

% Moisture: 11 Decanted:(Y/N) N Date Received: 04/18/2013

Extraction:(Type) SOXH Date Extracted: 04/19/2013

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 04/25/2013

Injection Volume: 1.0 (uL) GPC Factor: 1.0 Dilution Factor: 1.0

GPC Cleanup:(Y/N) N pH: 7.19 Sulfur Cleanup:(Y/N) N

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
12674-11-2	Aroclor-1016	37	U
11104-28-2	Aroclor-1221	37	U
11141-16-5	Aroclor-1232	37	U
53469-21-9	Aroclor-1242	120	
12672-29-6	Aroclor-1248	37	U
11097-69-1	Aroclor-1254	37	U
11096-82-5	Aroclor-1260	37	U
37324-23-5	Aroclor-1262	37	U
11100-14-4	Aroclor-1268	37	U

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

A4B26

Lab Name: Chemtech Contract: EPW11030

Lab Code: CHEM Case No.: 43392 Mod. Ref No.: SDG No.: A4B24

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: E1902-03

Sample wt/vol: 30.0 (g/mL) g Lab File ID: PB004916.D

% Moisture: 12 Decanted:(Y/N) N Date Received: 04/18/2013

Extraction:(Type) SOXH Date Extracted: 04/19/2013

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 04/25/2013

Injection Volume: 1.0 (uL) GPC Factor: 1.0 Dilution Factor: 1.0

GPC Cleanup:(Y/N) N pH: 7.01 Sulfur Cleanup:(Y/N) N

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
12674-11-2	Aroclor-1016	37	U
11104-28-2	Aroclor-1221	37	U
11141-16-5	Aroclor-1232	37	U
53469-21-9	Aroclor-1242	130	
12672-29-6	Aroclor-1248	37	U
11097-69-1	Aroclor-1254	37	U
11096-82-5	Aroclor-1260	37	U
37324-23-5	Aroclor-1262	37	U
11100-14-4	Aroclor-1268	37	U

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

A4B27

Lab Name: Chemtech Contract: EPW11030

Lab Code: CHEM Case No.: 43392 Mod. Ref No.: SDG No.: A4B24

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: E1902-04

Sample wt/vol: 30.0 (g/mL) g Lab File ID: PB004917.D

% Moisture: 9.2 Decanted:(Y/N) N Date Received: 04/18/2013

Extraction:(Type) SOXH Date Extracted: 04/19/2013

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 04/25/2013

Injection Volume: 1.0 (uL) GPC Factor: 1.0 Dilution Factor: 1.0

GPC Cleanup:(Y/N) N pH: 7.98 Sulfur Cleanup:(Y/N) N

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
12674-11-2	Aroclor-1016	36	U
11104-28-2	Aroclor-1221	36	U
11141-16-5	Aroclor-1232	36	U
53469-21-9	Aroclor-1242	110	P
12672-29-6	Aroclor-1248	36	U
11097-69-1	Aroclor-1254	36	U
11096-82-5	Aroclor-1260	36	U
37324-23-5	Aroclor-1262	36	U
11100-14-4	Aroclor-1268	36	U

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

A4B28

Lab Name: Chemtech Contract: EPW11030

Lab Code: CHEM Case No.: 43392 Mod. Ref No.: SDG No.: A4B24

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: E1902-05

Sample wt/vol: 30.0 (g/mL) g Lab File ID: PB004918.D

% Moisture: 9.0 Decanted:(Y/N) N Date Received: 04/18/2013

Extraction:(Type) SOXH Date Extracted: 04/19/2013

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 04/25/2013

Injection Volume: 1.0 (uL) GPC Factor: 1.0 Dilution Factor: 1.0

GPC Cleanup:(Y/N) N pH: 7.97 Sulfur Cleanup:(Y/N) N

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
12674-11-2	Aroclor-1016	36	U
11104-28-2	Aroclor-1221	36	U
11141-16-5	Aroclor-1232	36	U
53469-21-9	Aroclor-1242	140	
12672-29-6	Aroclor-1248	36	U
11097-69-1	Aroclor-1254	36	U
11096-82-5	Aroclor-1260	36	U
37324-23-5	Aroclor-1262	36	U
11100-14-4	Aroclor-1268	36	U

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

A4B29

Lab Name: Chemtech Contract: EPW11030

Lab Code: CHEM Case No.: 43392 Mod. Ref No.: SDG No.: A4B24

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: E1902-06

Sample wt/vol: 30.0 (g/mL) g Lab File ID: PB004919.D

% Moisture: 9.4 Decanted:(Y/N) N Date Received: 04/18/2013

Extraction:(Type) SOXH Date Extracted: 04/19/2013

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 04/25/2013

Injection Volume: 1.0 (uL) GPC Factor: 1.0 Dilution Factor: 1.0

GPC Cleanup:(Y/N) N pH: 8.01 Sulfur Cleanup:(Y/N) N

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
12674-11-2	Aroclor-1016	36	U
11104-28-2	Aroclor-1221	36	U
11141-16-5	Aroclor-1232	36	U
53469-21-9	Aroclor-1242	36	U
12672-29-6	Aroclor-1248	36	U
11097-69-1	Aroclor-1254	36	U
11096-82-5	Aroclor-1260	36	U
37324-23-5	Aroclor-1262	36	U
11100-14-4	Aroclor-1268	36	U

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

A4B30

Lab Name: Chemtech Contract: EPW11030

Lab Code: CHEM Case No.: 43392 Mod. Ref No.: SDG No.: A4B24

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: E1902-20

Sample wt/vol: 30.0 (g/mL) g Lab File ID: PB004925.D

% Moisture: 11 Decanted:(Y/N) N Date Received: 04/19/2013

Extraction:(Type) SOXH Date Extracted: 04/19/2013

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 04/25/2013

Injection Volume: 1.0 (uL) GPC Factor: 1.0 Dilution Factor: 1.0

GPC Cleanup:(Y/N) N pH: 7.72 Sulfur Cleanup:(Y/N) N

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
12674-11-2	Aroclor-1016	37	U
11104-28-2	Aroclor-1221	37	U
11141-16-5	Aroclor-1232	37	U
53469-21-9	Aroclor-1242	320	
12672-29-6	Aroclor-1248	37	U
11097-69-1	Aroclor-1254	37	U
11096-82-5	Aroclor-1260	37	U
37324-23-5	Aroclor-1262	37	U
11100-14-4	Aroclor-1268	37	U

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

A4B31

Lab Name: Chemtech Contract: EPW11030

Lab Code: CHEM Case No.: 43392 Mod. Ref No.: SDG No.: A4B24

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: E1902-21

Sample wt/vol: 30.0 (g/mL) g Lab File ID: PB004959.D

% Moisture: 15 Decanted:(Y/N) N Date Received: 04/19/2013

Extraction:(Type) SOXH Date Extracted: 04/19/2013

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 04/26/2013

Injection Volume: 1.0 (uL) GPC Factor: 1.0 Dilution Factor: 1.0

GPC Cleanup:(Y/N) N pH: 7.54 Sulfur Cleanup:(Y/N) N

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
12674-11-2	Aroclor-1016	39	U
11104-28-2	Aroclor-1221	39	U
11141-16-5	Aroclor-1232	39	U
53469-21-9	Aroclor-1242	1200	E
12672-29-6	Aroclor-1248	39	U
11097-69-1	Aroclor-1254	39	U
11096-82-5	Aroclor-1260	39	U
37324-23-5	Aroclor-1262	39	U
11100-14-4	Aroclor-1268	39	U

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

A4B31DL

Lab Name: Chemtech Contract: EPW11030

Lab Code: CHEM Case No.: 43392 Mod. Ref No.: SDG No.: A4B24

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: E1902-21DL

Sample wt/vol: 30.0 (g/mL) g Lab File ID: PB004960.D

% Moisture: 15 Decanted:(Y/N) N Date Received: 04/19/2013

Extraction:(Type) SOXH Date Extracted: 04/19/2013

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 04/26/2013

Injection Volume: 1.0 (uL) GPC Factor: 1.0 Dilution Factor: 10.0

GPC Cleanup:(Y/N) N pH: 7.54 Sulfur Cleanup:(Y/N) N

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
12674-11-2	Aroclor-1016	390	U
11104-28-2	Aroclor-1221	390	U
11141-16-5	Aroclor-1232	390	U
53469-21-9	Aroclor-1242	1600	D
12672-29-6	Aroclor-1248	390	U
11097-69-1	Aroclor-1254	390	U
11096-82-5	Aroclor-1260	390	U
37324-23-5	Aroclor-1262	390	U
11100-14-4	Aroclor-1268	390	U

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

A4B32

Lab Name: Chemtech Contract: EPW11030

Lab Code: CHEM Case No.: 43392 Mod. Ref No.: SDG No.: A4B24

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: E1902-22

Sample wt/vol: 30.0 (g/mL) g Lab File ID: PB004961.D

% Moisture: 12 Decanted:(Y/N) N Date Received: 04/19/2013

Extraction:(Type) SOXH Date Extracted: 04/19/2013

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 04/26/2013

Injection Volume: 1.0 (uL) GPC Factor: 1.0 Dilution Factor: 1.0

GPC Cleanup:(Y/N) N pH: 7.79 Sulfur Cleanup:(Y/N) N

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
12674-11-2	Aroclor-1016	38	U
11104-28-2	Aroclor-1221	38	U
11141-16-5	Aroclor-1232	38	U
53469-21-9	Aroclor-1242	970	E
12672-29-6	Aroclor-1248	38	U
11097-69-1	Aroclor-1254	38	U
11096-82-5	Aroclor-1260	38	U
37324-23-5	Aroclor-1262	38	U
11100-14-4	Aroclor-1268	38	U

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

A4B32DL

Lab Name: Chemtech Contract: EPW11030

Lab Code: CHEM Case No.: 43392 Mod. Ref No.: SDG No.: A4B24

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: E1902-22DL

Sample wt/vol: 30.0 (g/mL) g Lab File ID: PB004962.D

% Moisture: 12 Decanted:(Y/N) N Date Received: 04/19/2013

Extraction:(Type) SOXH Date Extracted: 04/19/2013

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 04/26/2013

Injection Volume: 1.0 (uL) GPC Factor: 1.0 Dilution Factor: 10.0

GPC Cleanup:(Y/N) N pH: 7.79 Sulfur Cleanup:(Y/N) N

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
12674-11-2	Aroclor-1016	380	U
11104-28-2	Aroclor-1221	380	U
11141-16-5	Aroclor-1232	380	U
53469-21-9	Aroclor-1242	1200	D
12672-29-6	Aroclor-1248	380	U
11097-69-1	Aroclor-1254	380	U
11096-82-5	Aroclor-1260	380	U
37324-23-5	Aroclor-1262	380	U
11100-14-4	Aroclor-1268	380	U

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

A4B33

Lab Name: Chemtech Contract: EPW11030

Lab Code: CHEM Case No.: 43392 Mod. Ref No.: SDG No.: A4B24

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: E1902-09

Sample wt/vol: 30.1 (g/mL) g Lab File ID: PB004922.D

% Moisture: 14 Decanted:(Y/N) N Date Received: 04/18/2013

Extraction:(Type) SOXH Date Extracted: 04/19/2013

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 04/25/2013

Injection Volume: 1.0 (uL) GPC Factor: 1.0 Dilution Factor: 1.0

GPC Cleanup:(Y/N) N pH: 7.35 Sulfur Cleanup:(Y/N) N

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
12674-11-2	Aroclor-1016	38	U
11104-28-2	Aroclor-1221	38	U
11141-16-5	Aroclor-1232	38	U
53469-21-9	Aroclor-1242	180	
12672-29-6	Aroclor-1248	38	U
11097-69-1	Aroclor-1254	38	U
11096-82-5	Aroclor-1260	38	U
37324-23-5	Aroclor-1262	38	U
11100-14-4	Aroclor-1268	38	U

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

A4B34

Lab Name: Chemtech Contract: EPW11030

Lab Code: CHEM Case No.: 43392 Mod. Ref No.: SDG No.: A4B24

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: E1902-23

Sample wt/vol: 30.1 (g/mL) g Lab File ID: PB004926.D

% Moisture: 14 Decanted:(Y/N) N Date Received: 04/19/2013

Extraction:(Type) SOXH Date Extracted: 04/22/2013

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 04/25/2013

Injection Volume: 1.0 (uL) GPC Factor: 1.0 Dilution Factor: 1.0

GPC Cleanup:(Y/N) N pH: 5.40 Sulfur Cleanup:(Y/N) N

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
12674-11-2	Aroclor-1016	38	U
11104-28-2	Aroclor-1221	38	U
11141-16-5	Aroclor-1232	38	U
53469-21-9	Aroclor-1242	280	P
12672-29-6	Aroclor-1248	38	U
11097-69-1	Aroclor-1254	38	U
11096-82-5	Aroclor-1260	38	U
37324-23-5	Aroclor-1262	38	U
11100-14-4	Aroclor-1268	38	U

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

A4B35

Lab Name: Chemtech Contract: EPW11030

Lab Code: CHEM Case No.: 43392 Mod. Ref No.: SDG No.: A4B24

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: E1902-10

Sample wt/vol: 30.0 (g/mL) g Lab File ID: PB004923.D

% Moisture: 14 Decanted:(Y/N) N Date Received: 04/18/2013

Extraction:(Type) SOXH Date Extracted: 04/19/2013

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 04/25/2013

Injection Volume: 1.0 (uL) GPC Factor: 1.0 Dilution Factor: 1.0

GPC Cleanup:(Y/N) N pH: 7.92 Sulfur Cleanup:(Y/N) N

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
12674-11-2	Aroclor-1016	38	U
11104-28-2	Aroclor-1221	38	U
11141-16-5	Aroclor-1232	38	U
53469-21-9	Aroclor-1242	38	U
12672-29-6	Aroclor-1248	38	U
11097-69-1	Aroclor-1254	38	U
11096-82-5	Aroclor-1260	38	U
37324-23-5	Aroclor-1262	38	U
11100-14-4	Aroclor-1268	38	U

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

A4B56

Lab Name: Chemtech Contract: EPW11030

Lab Code: CHEM Case No.: 43392 Mod. Ref No.: SDG No.: A4B24

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: E1902-11

Sample wt/vol: 30.0 (g/mL) g Lab File ID: PB004938.D

% Moisture: 0.0 Decanted:(Y/N) N Date Received: 04/18/2013

Extraction:(Type) SOXH Date Extracted: 04/19/2013

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 04/25/2013

Injection Volume: 1.0 (uL) GPC Factor: 1.0 Dilution Factor: 1.0

GPC Cleanup:(Y/N) N pH: N/A Sulfur Cleanup:(Y/N) N

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
12674-11-2	Aroclor-1016	33	U
11104-28-2	Aroclor-1221	33	U
11141-16-5	Aroclor-1232	33	U
53469-21-9	Aroclor-1242	770	E
12672-29-6	Aroclor-1248	33	U
11097-69-1	Aroclor-1254	33	U
11096-82-5	Aroclor-1260	33	U
37324-23-5	Aroclor-1262	33	U
11100-14-4	Aroclor-1268	33	U

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

A4B56DL

Lab Name: Chemtech Contract: EPW11030

Lab Code: CHEM Case No.: 43392 Mod. Ref No.: SDG No.: A4B24

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: E1902-11DL

Sample wt/vol: 30.0 (g/mL) g Lab File ID: PB004939.D

% Moisture: 0.0 Decanted:(Y/N) N Date Received: 04/18/2013

Extraction:(Type) SOXH Date Extracted: 04/19/2013

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 04/25/2013

Injection Volume: 1.0 (uL) GPC Factor: 1.0 Dilution Factor: 5.0

GPC Cleanup:(Y/N) N pH: N/A Sulfur Cleanup:(Y/N) N

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
12674-11-2	Aroclor-1016	160	U
11104-28-2	Aroclor-1221	160	U
11141-16-5	Aroclor-1232	160	U
53469-21-9	Aroclor-1242	870	D
12672-29-6	Aroclor-1248	160	U
11097-69-1	Aroclor-1254	160	U
11096-82-5	Aroclor-1260	160	U
37324-23-5	Aroclor-1262	160	U
11100-14-4	Aroclor-1268	160	U

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

A4B57

Lab Name: Chemtech Contract: EPW11030

Lab Code: CHEM Case No.: 43392 Mod. Ref No.: SDG No.: A4B24

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: E1902-12

Sample wt/vol: 30.1 (g/mL) g Lab File ID: PB004940.D

% Moisture: 0.0 Decanted:(Y/N) N Date Received: 04/18/2013

Extraction:(Type) SOXH Date Extracted: 04/19/2013

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 04/26/2013

Injection Volume: 1.0 (uL) GPC Factor: 1.0 Dilution Factor: 1.0

GPC Cleanup:(Y/N) N pH: N/A Sulfur Cleanup:(Y/N) N

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
12674-11-2	Aroclor-1016	33	U
11104-28-2	Aroclor-1221	33	U
11141-16-5	Aroclor-1232	33	U
53469-21-9	Aroclor-1242	33	U
12672-29-6	Aroclor-1248	33	U
11097-69-1	Aroclor-1254	33	U
11096-82-5	Aroclor-1260	810	E
37324-23-5	Aroclor-1262	33	U
11100-14-4	Aroclor-1268	33	U

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

A4B57DL

Lab Name: Chemtech Contract: EPW11030

Lab Code: CHEM Case No.: 43392 Mod. Ref No.: SDG No.: A4B24

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: E1902-12DL

Sample wt/vol: 30.1 (g/mL) g Lab File ID: PB004941.D

% Moisture: 0.0 Decanted:(Y/N) N Date Received: 04/18/2013

Extraction:(Type) SOXH Date Extracted: 04/19/2013

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 04/26/2013

Injection Volume: 1.0 (uL) GPC Factor: 1.0 Dilution Factor: 5.0

GPC Cleanup:(Y/N) N pH: N/A Sulfur Cleanup:(Y/N) N

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
12674-11-2	Aroclor-1016	160	U
11104-28-2	Aroclor-1221	160	U
11141-16-5	Aroclor-1232	160	U
53469-21-9	Aroclor-1242	160	U
12672-29-6	Aroclor-1248	160	U
11097-69-1	Aroclor-1254	160	U
11096-82-5	Aroclor-1260	830	D
37324-23-5	Aroclor-1262	160	U
11100-14-4	Aroclor-1268	160	U

Attachment D

USEPA Contract Laboratory Program Statement of Work for Organic Analysis,
Multi-Media Multi-Concentration, SOMO1.2 (Excerpt)
and
Modifications Updating SOM01.1 to SOM01.2, October 5, 2006, Updated 02-12-2007,
Amended 04-11-2007 (Excerpt)

4.0 AROCLORS TARGET COMPOUND LIST AND CONTRACT REQUIRED QUANTITATION LIMITS[1]

Aroclors	CAS Number	Quantitation Limits	
		Water	Soil
		ug/L	ug/kg
141. Aroclor-1016	12674-11-2	1.0	33
142. Aroclor-1221	11104-28-2	1.0	33
143. Aroclor-1232	11141-16-5	1.0	33
144. Aroclor-1242	53469-21-9	1.0	33
145. Aroclor-1248	12672-29-6	1.0	33
146. Aroclor-1254	11097-69-1	1.0	33
147. Aroclor-1260	11096-82-5	1.0	33
148. Aroclor-1262	37324-23-5	1.0	33
149. Aroclor-1268	11100-14-4	1.0	33

[1]There is no differentiation between the preparation of low and medium soil samples in this method for the analysis of Aroclors.

EXHIBIT D – AROCLORS	
EXHIBIT/SECTION(S)	**MODIFICATION (S)**
Aro-Item 1 Exhibit D - Aroclor: Section 7.2.3.4.1	The following Section: "Prepare five-point initial calibration standard solutions containing a mixture of Aroclors 1016 and 1260 at the following suggested levels: 100; 200; 400; 800; and 1600 ng/mL and surrogates at 5.0, 10, 20, 40 and 80 ng/mL for tetrachloro-m-xylene and 10, 20, 40, 80 and 160 ng/mL for decachlorobiphenyl. Also, prepare a single-point initial calibration standard solution containing Aroclors 1221, 1232, 1242, 1248, 1254, 1262, and 1268 at 400 ng/mL and surrogates at 20 ng/mL for tetrachloro-m-xylene and 40 ng/mL for decachlorobiphenyl. The solutions must be prepared every 6 months, or sooner if the solutions have degraded or concentrated." Is updated to: "Prepare five-point initial calibration standard solutions containing a mixture of Aroclors 1016 and 1260 at the following suggested levels: 100; 200; 400; 800; and 1600 ng/mL and surrogates at 5.0, 10, 20, 40 and 80 ng/mL for tetrachloro-m-xylene and 10, 20, 40, 80 and 160 ng/mL for decachlorobiphenyl. ***In addition, prepare a single-point initial calibration standard solution containing Aroclors 1221 at 400 ng/mL including surrogates, tetrachloro-m-xylene at 20 ng/mL and decachlorobiphenyl at 40 ng/mL. Also, prepare a single point calibration initial calibration standard of Aroclor 1232, 1242, 1248, 1254, 1262, and 1268 as instructed for Aroclor 1221.*** **Refer to Section 7.2.3.4.3 for five-point calibration standards of the other Aroclors.** The solutions must be prepared every 6 months, or sooner if the solutions have degraded or concentrated."
Aro-Item 2 Exhibit D - Aroclor: Section 7.2.3.4.2	The following Section: "Prepare a single-point calibration verification standard solution containing Aroclor 1260 and Aroclor 1016 at 400 ng/mL and surrogates at 20 ng/mL for tetrachloro-m-xylene and 40 ng/mL for decachlorobiphenyl. The solution must be prepared every 6 months, or sooner if the solution has degraded or concentrated." Is updated to: "Prepare a single-point calibration verification standard solution containing Aroclor 1260 and Aroclor 1016 at 400 ng/mL and surrogates, ***tetrachloro-m-xylene at 20 ng/mL and decachlorobiphenyl 40 ng/mL.*** **Additional *individual* calibration verification standard *solution(s)* containing any other Aroclor may be prepared when necessary at 400 ng/mL,** ***including surrogates, tetrachloro-m-xylene at 20 ng/mL and decachlorobiphenyl at 40 ng/mL.*** The solution must be prepared every 6 months, or sooner if the solution has degraded or concentrated."

EXHIBIT/SECTION(S)	MODIFICATION (S)
Aro-Item 3 Exhibit D - Aroclor: Section 9.2.1	The following Section: "Summary of Initial Calibration Prior to sample analysis (including LCSs and MS/MSDs) and required blanks (method/sulfur cleanup/instrument), each GC/ECD system must be initially calibrated to determine instrument sensitivity and the linearity of Aroclor response. An initial five-point calibration is performed using Aroclors 1016 and 1260 to demonstrate the linearity of the detector response. The other seven Aroclors are calibrated at a single mid-point for pattern recognition. The standards for these seven Aroclors should be analyzed before the analysis of any samples, and may be analyzed before or after the analysis of the five levels of the Aroclor 1016/1260 standards. is updated to: Summary of Initial Calibration Prior to sample analysis (including LCSs and MS/MSDs) and required blanks (method/sulfur cleanup/instrument), each GC/ECD system must be initially calibrated to determine instrument sensitivity and the linearity of Aroclor response. An initial five-point calibration is performed using Aroclors 1016 and 1260 to demonstrate the linearity of the detector response. The other seven Aroclors can be calibrated at a single mid-point **at a minimum**, for pattern recognition. The standards for these seven Aroclors should be analyzed before the analysis of any samples, and may be analyzed before or after the analysis of the five levels of the Aroclor 1016/1260 standards. **Note: All Aroclor target compounds may have five-point calibrations performed initially, prior to sample analyses. Alternately, as long as a valid five-point calibration of Aroclor 1016/1260 is present, five-point calibrations for any of the remaining Aroclor target compounds may be performed, prior to sample analyses.**

EXHIBIT/SECTION(S)	MODIFICATION (S)
Aro-Item 4 Exhibit D - Aroclor: Section 9.2.2	The following Section: Each GC/ECD system must be initially calibrated upon award of the contract, whenever major instrument maintenance or modification is performed (e.g., column replacement or repair, cleaning or replacement of the ECD, etc.), or if the calibration verification technical acceptance criteria have not been met. Also, for any sample in which an Aroclor, other than Aroclor 1016 or Aroclor 1260 is detected, results for the specific Aroclor(s) may only be reported if the Aroclor(s) have been calibrated using multipoint standards (five-point). If time remains in the 12-hour period after a valid five-point initial calibration for a detected Aroclor(s) has been performed, then samples containing the Aroclor(s) may be analyzed. If the previously-analyzed five-point initial calibration containing the Aroclor(s) detected in the sample(s) is not in the same 12-hour sequence, then the sample(s) must be analyzed after a Continuing Calibration Verification (CCV) analysis containing the Aroclor(s) detected in the sample(s) that meets the criteria for CCVs in Section 9.3. is updated to: Each GC/ECD system must be initially calibrated upon award of the contract, whenever major instrument maintenance or modification is performed (e.g., column replacement or repair, cleaning or replacement of the ECD, etc.), or if the calibration verification technical acceptance criteria have not been met. Also, for any sample, in which an Aroclor (other than Aroclor 1016 or Aroclor 1260) is detected, **for which a valid five point calibration curve is not available, results for these specific Aroclors must be reported as an estimated concentration with the appropriate compound qualifier. Subsequently, the sample must be re-analyzed following a valid five point calibration of the specific Aroclor. All sample analysis, must be preceded by an opening CCV with an Aroclor 1016/1260 CS3 standard, at a minimum. Additional Aroclor opening CCV standards may be analyzed at the laboratory's discretion. The closing CCV must include Aroclor 1016/1260 CS3 and all detected Aroclors in the sample. When an Aroclor, other than Aroclor 1016/1260, is detected in a sample, the closing CCV CS3 standard of this detected Aroclor standard must meet opening CCV technical acceptance criteria in Section 9.3.5, if the sample was not preceded by the Aroclor included as a CS3 standard in the opening CCV."**
Aro-Item 5 Exhibit D – Aroclor: Section 9.2.3.3	The following Section: "If Aroclors other than Aroclor 1016/1260 are detected in an analysis, a separate five point calibration must be prepared (Section 7.2.3.4.3) and run for that particular Aroclor." is updated to: "If Aroclors other than Aroclor 1016/1260 are detected in **a sample** analysis, **following a single-point calibration for that particular Aroclor,** a separate five-point calibration must be prepared (Section 7.2.3.4.3) and run for that particular Aroclor, **followed by a re-analysis of the sample."**

EXHIBIT/SECTION(S)	MODIFICATION (S)
Aro-Item 6 Exhibit D – Aroclor; Section 9.2.3.5	Analyze the initial calibration sequence as given below. Initial Calibration Sequence 1. Aroclor 1221 CS3 (400 ng/mL) 2. Aroclor 1232 CS3 (400 ng/mL) 3. Aroclor 1242 CS3 (400 ng/mL) 4. Aroclor 1248 CS3 (400 ng/mL) 5. Aroclor 1254 CS3 (400 ng/mL) 6. Aroclor 1262 CS3 (400 ng/mL) 7. Aroclor 1268 CS3 (400 ng/mL) 8. Aroclor 1016/1260 CS1 (100 ng/mL) 9. Aroclor 1016/1260 CS2 (200 ng/mL) 10. Aroclor 1016/1260 CS3 (400 ng/mL) 11. Aroclor 1016/1260 CS4 (800 ng/mL) 12. Aroclor 1016/1260 CS5 (1600 ng/mL) 13. Instrument blank **Note**: The single-point Aroclor standards may be analyzed after the analysis of the five levels of the Aroclor 1016/1260 standards. The steps pertaining to the instrument blank are used as part of the calibration verification as well. is updated to: **"Initial Calibration may be performed by any of the following sequence Options given below:** Initial Calibration Sequence – **Option 1** 1. Aroclor 1221 CS3 (400 ng/mL) 2. Aroclor 1232 CS3 (400 ng/mL) 3. Aroclor 1242 CS3 (400 ng/mL) 4. Aroclor 1248 CS3 (400 ng/mL) 5. Aroclor 1254 CS3 (400 ng/mL) 6. Aroclor 1262 CS3 (400 ng/mL) 7. Aroclor 1268 CS3 (400 ng/mL) 8. Aroclor 1016/1260 CS1 (100 ng/mL) 9. Aroclor 1016/1260 CS2 (200 ng/mL) 10. Aroclor 1016/1260 CS3 (400 ng/mL) 11. Aroclor 1016/1260 CS4 (800 ng/mL) 12. Aroclor 1016/1260 CS5 (1600 ng/mL) **Note: The single-point Aroclor standards may be analyzed after the analysis of the five levels of the Aroclor 1016/1260 standards in Option 1 above.** **OR**

EXHIBIT/SECTION(S)	MODIFICATION (S)
Aro-Item 6 Exhibit D – Aroclor: Section 9.2.3.5 *(Cont.)*	<u>Initial Calibration Sequence - Option 2</u> **5-points of Aroclor 1016/1260(100ng/mL to 1600ng/mL)** **5-points of Aroclor 1221 (100ng/mL to 1600ng/mL)** **5-points of Aroclor 1232(100ng/mL to 1600ng/mL)** **5-points of Aroclor 1242(100ng/mL to 1600ng/mL)** **5-points of Aroclor 1248(100ng/mL to 1600ng/mL)** **5-points of Aroclor 1254(100ng/mL to 1600ng/mL)** **5-points of Aroclor 1262(100ng/mL to 1600ng/mL)** **5-points of Aroclor 1268(100ng/mL to 1600ng/mL)** **OR** <u>Initial Calibration Sequence - Option 3</u> **5-points of Aroclor 1016/1260(100ng/mL to 1600ng/mL)** **5-points or single point Aroclor 1221 (100ng/mL - 1600ng/mL or 400ng/mL)** **5-points or single point Aroclor 1232 (100ng/mL - 1600ng/mL or 400ng/mL)** **5-points or single point Aroclor 1242 (100ng/mL - 1600ng/mL or 400ng/mL)** **5-points or single point Aroclor 1248 (100ng/mL - 1600ng/mL or 400ng/mL)** **5-points or single point Aroclor 1254 (100ng/mL - 1600ng/mL or 400ng/mL)** **5-points or single point Aroclor 1262 (100ng/mL- 1600ng/mL or 400ng/mL)** **5-points or single point Aroclor 1268 (100ng/mL - 1600ng/mL or 400ng/mL)** **Note: Option 2 and 3 Initial Calibration above may be performed in any Aroclor sequence as long as a valid five-point calibration of Aroclor 1016/1260 is present. Refer to Section 7.2.3.4 for initial calibration standard concentrations.**

EXHIBIT/SECTION(S)	MODIFICATION (S)
Aro-Item 7 Exhibit D – Aroclor: Section 9.2.4.2	The following Section: "For Aroclors 1016 and 1260, an RT is measured for a minimum of 3 peaks in each of the five calibration standards and the mean RT ($\overline{RT}$) is calculated for each of the peaks as the average of the five values obtained from the five calibration standards. For Aroclors 1221, 1232, 1242, 1248, 1254, 1262, and 1268 an RT is measured for each of the peaks for a single-point calibration standard. If a valid five-point calibration is present for a specific Aroclor then an RT is measured for each of the peaks in each of the five calibration standards and the $\overline{RT}$ is calculated as the average of the five values for each of the peaks obtained from the five calibration standards. An RT is measured for the surrogates in each of the five calibration standards and the $\overline{RT}$ is calculated as the average of the five values. Calculate the $\overline{RT}$ using Equation 1: is updated to: "For Aroclors 1016 and 1260, an RT is measured for a minimum of 3 peaks in each of the five calibration standards and the mean RT ($\overline{RT}$) is calculated for each of the peaks as the average of the five values obtained from the five calibration standards. For Aroclors 1221, 1232, 1242, 1248, 1254, 1262, and 1268 an RT is measured for **a minimum of three** peaks for a single-point calibration standard. If a valid five-point calibration is present for a specific Aroclor then an RT is measured for **a minimum of three** peaks in each of the five calibration standards and the $\overline{RT}$ is calculated as the average of the five values for each of the peaks obtained from the five calibration standards. An RT is measured for the surrogates in each of the five calibration standards of **Aroclor 1016/1260, or from Aroclor 1016 if analyzed as a separate mixture. The surrogate** $\overline{RT}$ **is** calculated as the average of the five values. Calculate the $\overline{RT}$ using Equation 1:"

EXHIBIT/SECTION(S)	MODIFICATION (S)
Aro-Item 8 Exhibit D – Aroclor: Section 9.2.4.4	The following Section: "The linearity of the instrument is determined by calculating a Percent Relative Standard Deviation (%RSD) of the Calibration Factors (CFs). Either peak area or peak height may be used to calculate CFs used in the %RSD equation. Five sets of CFs will be generated for the Aroclor 1016/1260 mixture, each set consisting of the CFs for each of the five peaks chosen for this mixture. The single standard for each of the other Aroclors will generate at least three CFs, one for each selected peak, unless a valid five-point calibration is present for a specific Aroclor, in which case five sets of CFs will be generated for the specific Aroclor. Calculate CFs, the Mean CF ($\overline{CF}$), and the %RSD of the CFs for each peak in a selected set of a minimum of 3 major peaks for each Aroclor using Equations 2, 3, and 4." Is updated to: "The linearity of the instrument is determined by calculating a Percent Relative Standard Deviation (%RSD) of the Calibration Factors (CFs). Either peak area or peak height may be used to calculate CFs used in the %RSD equation. Five sets of CFs will be generated for the Aroclor 1016/1260 mixture, each set consisting of the CFs for each of the peaks **(minimum of three)** chosen for this mixture. The single standard for each of the other Aroclors will generate at least three CFs, one for each selected peak, unless a valid five-point calibration is present for a specific Aroclor, in which case five sets of CFs will be generated for the specific Aroclor. **Calibration Factors (CF) for the surrogates must be generated for each of the five calibration standards of Aroclor 1016/1260, or from Aroclor 1016 if analyzed as a separate mixture. The $\overline{CF}$ of each surrogate compound is calculated as the average of the five values.** Calculate CFs, the Mean CF ($\overline{CF}$), and the %RSD of the CFs for each peak in a selected set of a minimum of 3 major peaks for each Aroclor using Equations 2, 3, and 4."

EXHIBIT/SECTION(S)	MODIFICATION (S)
Aro-Item 9 Exhibit D – Aroclor: Section 9.3.1	The following Section: "Summary of Continuing Calibration Verification (CCV) The analyses of instrument blanks and the required Aroclor CS3 Standard Mixtures (see Section 9.3.2) constitute the calibration verification. Sample (including LCS and MS/MSD) and required blank (method/sulfur cleanup) data are not acceptable unless bracketed by acceptable analyses of instrument blanks and the Aroclor CS3 Standard Mixtures. In cases where a valid five-point initial calibration for the detected Aroclors is required, that initial calibration may be substituted for the opening CCV." Is updated to: "Summary of Continuing Calibration Verification (CCV) **The analyses of instrument blanks and the required Aroclor CS3 Standard Mixtures (see Section 9.3.2) constitute the calibration verification. Sample (including LCS and MS/MSD) and required blank (method/sulfur cleanup) data are not acceptable unless bracketed by acceptable analyses of instrument blanks and the Aroclor CS3 Standard Mixtures."** Note the last sentence in the section is deleted: **"In cases where a valid five-point initial calibration for the detected Aroclors is required, that initial calibration may be substituted for the opening CCV."**

EXHIBIT/SECTION(S)	MODIFICATION (S)
Aro-Item 10 Exhibit D – Aroclor: Section 9.3.2.1	The following section: An instrument blank and Aroclor 1016/1260 CS3 Standard Mixture must bracket one end of a 12-hour period (opening CCV) during which sample and required blank data are collected, and a second instrument blank and the Aroclor 1016/1260 CS3 Standard Mixture must bracket the other end of the 12-hour period (closing CCV). If during any 12-hour period, an Aroclor other than 1016 or 1260 is detected and the 12-hour time period for the five-point initial calibration of the detected Aroclor(s) has elapsed, then an instrument blank and a CS3 standard of the detected Aroclor(s) must bracket both ends of the 12-hour period. If the opening CCV does not meet all technical acceptance criteria, then a new valid five-point initial calibration for the detected Aroclors must be performed before samples containing the detected Aroclors may be analyzed. is updated to: "An instrument blank and Aroclor 1016/1260 CS3 Standard Mixture must bracket one end of a 12-hour period (opening CCV) during which sample and required blank data are collected, **a second instrument blank, Aroclor 1016/1260 CS3 and CS3 Standard Mixture (s) of any other detected Aroclor (s) must bracket the other end of a 12-hour period (closing CCV). Each opening CCV must include an instrument blank and Aroclor 1016/1260 CS3 standard, additional Aroclor CS3 standards may be performed at the laboratory's discretion. If a valid five-point calibration is available for Aroclor (s) other than 1016/1260, an opening CCV with an instrument blank and Aroclor 1016/1260 CS3 is sufficient, however, the closing CCV must *include* all Aroclors detected and meet opening CCV technical acceptance criteria in Section 9.3.5.3.**

EXHIBIT/SECTION(S)	MODIFICATION (S)
Aro-Item 11 Exhibit D – Aroclor: Section 9.3.2.2	For the 12-hour period immediately following the initial calibration sequence, the instrument blank is the last step in the initial calibration sequence and brackets the front end of that 12-hour period. The injection of the instrument blank starts the beginning of the 12-hour period (Section 10.3.2.1.1), followed by the injection of the Aroclor 1016/1260 CS3 Standard. Samples (including LCSs and MS/MSDs) and required blanks (method/sulfur cleanup) may be injected for 12 hours from the injection of the instrument blank. The first injections immediately after that 12-hour period must be an instrument blank and the Aroclor 1016/1260 CS3 Standard Mixture. The instrument blank must be analyzed first, before the standard. Is updated to: "The injection of **an** instrument blank starts the beginning of the 12-hour period (Section 10.3.2.1.1), followed by the injection of Aroclor 1016/1260 CS3 Standard **and any additional CS3 Standard Mixture(s) as determined by the laboratory**. Samples (including LCSs and MS/MSDs) and required blanks (method/sulfur cleanup) may be injected for 12 hours from the injection of the instrument blank. The first injections immediately after **the previous** 12-hour period must be an instrument blank, Aroclor 1016/1260 CS3 Standard **and CS3 Standard Mixture(s) of any other detected Aroclor. A closing CCV must bracket the end of a 12-hour sequence.**

EXHIBIT/SECTION(S)	MODIFICATION (S)
Aro-Item 12 Exhibit D – Aroclor: Section 9.3.2.3	The following Section: "The analyses of the instrument blank and CS3 Standard Mixture (closing CCV) immediately following one 12-hour period may be used to begin the subsequent 12-hour period as an opening CCV, provided that they meet the technical acceptance criteria in Section 9.3.5. In that instance, the subsequent 12-hour period must be bracketed by the acceptable analyses of an instrument blank and a CS3 Standard Mixture (closing CCV), in that order. Those two analyses may in turn be used to bracket the front end of yet another 12-hour period (opening CCV). This progression may continue every 12 hours until such time as any of the instrument blanks or the CS3 Standard Mixture fails to meet the technical acceptance criteria in Section 9.3.4, or an Aroclor has been detected in a sample for which the corresponding CS3 standard was not performed for the opening CCV. The 12-hour time period begins with the injection of the instrument blank." is updated to: "The analyses of the instrument blank and CS3 Standard Mixture*(s)* (closing CCV) immediately following one 12-hour period may be used to begin the subsequent 12-hour period as an opening CCV, provided that they meet the technical acceptance criteria in Section 9.3.5. In that instance, the subsequent 12-hour period must be bracketed by the acceptable analyses of an instrument blank and a CS3 Standard Mixture*(s)* (closing CCV), in that order. Those two analyses may in turn be used to bracket the front end of yet another 12-hour period (opening CCV). This progression may continue every 12 hours until such time as any of the instrument blanks or the **required** CS3 Standard Mixture (s) fails to meet the technical acceptance criteria in **Section 9.3.5**.
Aro-Item 13 Exhibit D – Aroclor: Section 9.3.2.4	The following section is deleted: **"If more than 12 hours have elapsed since the injection of the instrument blank that bracketed a previous 12-hour period, an acceptable instrument blank and an Aroclor 1016/1260 CS3 standard must be analyzed in order to start a new sequence. This requirement applies even if no analyses were performed since that standard was injected."**

EXHIBIT/SECTION(S)	MODIFICATION (S)
Aro-Item 14 Exhibit D – Aroclor: Section 9.3.2.5	The following Section: "The requirements for running the instrument blanks and CS3 Aroclor 1016/1260 Standard Mixture are waived when no samples (including LCSs and MS/MSDs), dilutions, reanalyses, or required blanks (method/sulfur cleanup) are analyzed during that 12-hour period. To resume analysis, using the existing initial calibration, the Contractor must first analyze an instrument blank and CS3 Aroclor 1016/1260 Standard that meet the technical acceptance criteria." Is updated to: "The requirements for running the instrument blanks and CS3 Aroclor 1016/1260 Standard Mixture are waived when no samples (including LCSs and MS/MSDs), dilutions, reanalyses, or required blanks (method/sulfur cleanup) are analyzed during that 12-hour period. To resume analysis, using the existing initial calibration, the Contractor must first analyze an **opening CCV that consist of** an instrument blank, Aroclor 1016/1260 CS3 Standard, **and any additional CS3 Aroclor Standard (s)** that meet the technical acceptance criteria. **Note: Additional opening CCV CS3 Aroclor Standard (s) determined to be necessary are at the laboratory's discretion."**
Aro-Item 15 Exhibit D – Aroclor: Section 9.3.2.5	The current "Section 9.3.2.5" is updated to "**Section 9.3.2.4**".
Aro-Item 16 Exhibit D – Aroclor: Section 9.3.2.6	The following Section: "If the entire 12-hour period is not required for the analyses of all samples and blanks to be reported and all data collection is to be stopped, the sequence must be ended with the instrument blank/CS3 Aroclor Standard Mixture (s) (1016/1260 and all detected Aroclors) combination." is updated to: "If the entire 12-hour period is not required for the analyses of all samples and blanks to be reported and all data collection is to be stopped, the sequence must **end with an appropriate closing CCV combination, that is, an instrument blank/CS3 Aroclor 1016/1260 and all detected Aroclor CS3 Standard Mixture(s)**."
Aro-Item 17 Exhibit D – Aroclor: Section 9.3.2.6	The current "Section 9.3.2.6" is updated to "**Section 9.3.2.5**".
Aro-Item 18 Exhibit D – Aroclor: Section 9.3.2.7	The following Section: "No more than 14 hours may elapse from the injection beginning the opening CCV (instrument blank) and the injection ending the closing CCV (Aroclor Standard)." Is updated to: "No more than 14 hours may elapse from the injection beginning the opening CCV (instrument blank) and the injection ending the closing CCV (Aroclor Standard). **If more than 12 hours elapse between the injections of the two instrument blanks (opening and closing CCV) that bracket a 12-hour period in which samples or required blanks are analyzed, then the time between the injection of the instrument blank (closing CCV) and the preceding sample may not exceed the length of one chromatographic run."**

Aro-Item 19 Exhibit D – Aroclor: Section 9.3.2.7	**The current "Section 9.3.2.7" is updated to "Section 9.3.2.6".**
Aro-Item 20 Exhibit D – Aroclor: Section 9.3.4	The following Section: "Calculations for Calibration Verification For each analysis of the CS3 Individual Standard Mixture(s) used to demonstrate calibration verification, calculate the Percent Difference between the CF of each Aroclor peak (including the surrogates) in the standard mixture and the $\overline{CF}$ from the initial calibration, using Equation 5." is updated to: "Calculations for Calibration Verification For each analysis of the CS3 Individual Standard Mixture(s) used to demonstrate calibration verification, calculate the Percent Difference between the CF of each Aroclor peak **in the standard mixture and the $\overline{CF}$ from the initial calibration, using Equation 5. Calculate the Percent Difference between CF of surrogates in each standard mixture and the $\overline{CF}$ from the initial calibration of Aroclor 1016/1260 or 1016 if analyzed as a separate mixture, using Equation 5."**

EXHIBIT/SECTION(S)	MODIFICATION (S)
Aro-Item 21 Exhibit D – Aroclor: Section 9.3.5.3	The following Section: "For the opening CCV, Percent Difference for each Aroclor peak and surrogates calculated from the CCV standard must not exceed ±15%. For the closing CCV, Percent Difference for each Aroclor peak and surrogates calculated from the CCV must not exceed ±50%. If the Percent Difference for the closing CCV is ±15% or less, then it can be used for the opening CCV of the next 12-hour period." is updated to: "For the opening CCV, Percent Difference for each Aroclor peak and surrogates calculated from the CCV standard must not exceed ±15%. For the closing CCV, Percent Difference for each Aroclor peak and surrogates calculated from the CCV must not exceed ±50%. If the Percent Difference for the closing CCV is ±15% or less, then it can be used for the opening CCV of the next 12-hour period. **Note: When a required closing CCV of an Aroclor other than Aroclor 1016/1260 is preceded by an opening CCV of Aroclor 1016/1260 CS3 only, the percent difference of each Aroclor peak and surrogate compound must not exceed ± 15%."**
Aro-Item 22 Exhibit D – Aroclor: Section 9.3.6.7	The following Section: "If a successful instrument blank and Aroclor 1016/1260 standard cannot be run after an interruption in analysis (Section 9.3.2.6), an acceptable initial calibration must be run before sample data may be collected. All acceptable sample (including LCS and MS/MSDs) and required blank (method/sulfur cleanup) analyses must be preceded and followed by acceptable standards and instrument blanks, as described in Section 9.3.2." is updated to: "If a successful instrument blank and Aroclor 1016/1260 standard cannot be run after an interruption in analysis (Section 9.3.2.6), an acceptable initial calibration must be run before sample data may be collected. All acceptable sample (including LCS and MS/MSDs) and required blank (method/sulfur cleanup) analyses must be preceded and followed by acceptable instrument blanks and standards **(opening and closing CCV)** as described in Section 9.3.2."
Aro-Item 23 Exhibit D - Aroclor: Section 10.2.2.3.1	The following Section: "Using a syringe or a volumetric pipet, transfer all of the hexane extract to a 10mL vial and, in a fume hood, carefully add 5mL of the 1:1 (v/v) sulfuric acid/water solution." is updated to: "Using a syringe or a volumetric pipet, transfer **an aliquot (1 or 2 mL)** of the hexane extract to a 10mL vial and, in a fume hood, carefully add 5mL of the 1:1 (v/v) sulfuric acid/water solution."
Aro-Item 24 Exhibit D – Aroclor: Section 10.2.2.3.1 and 10.2.2.3.2	The following Sections will be switched: The language for the updated sentence of Section 10.2.2.3.1 will become Section 10.2.2.3.2 and vice versa.

EXHIBIT/SECTION(S)	MODIFICATION (S)
Aro-Item 25 Exhibit D – Aroclor: Section 10.3.2.1	The following Section: "Analytical Sequence All acceptable samples must be analyzed within a valid analysis sequence as given below: Time / Injection # / Material Injected 1-12 / First 12 steps of the initial calibration 0 hr. / 13 / Instrument blank Aroclor 1016/1260 14 / Standard Sample 12 hr. / / Last sample 1st injection past 12 hr. / Instrument blank Aroclor 1016/1260 2nd injection past 12 hr. / standard Subsequent samples Another 12 hrs. / / Last sample 1st injection past 12 hr. / Instrument blank Aroclor 1016/1260 2nd injection past 12 hr. / standard 3rd injection past 12 hr. / Sample is updated to: "Analytical Sequence All acceptable samples must be analyzed within a valid analysis sequence as given below: **Time** / **Injection #** / **Material Injected** First 12 steps of theinitial 1-12 **(or 5-points of all Aroclors)** / calibration (or 5-points of all Aroclors) 0 hr. / 13 / Instrument blank 14 / Aroclor 1016/1260 Standard ***15*** / **Additional Aroclor CS3 Standard (optional)** ***16*** / **Subsequent Samples** 12 hr. / / Last sample 1st injection past 12 hr. / Instrument blank 2nd injection past 12 hr. / ***Aroclor 1016/1260 Standard*** **3rd injection past 12 hr.** / **Detected Aroclor CS3 Standard *(as required)*** **14 hr.** / **4th injection past 12 hr.** / **Detected Aroclor CS3 Standard *(as required)*** Subsequent Samples Another 12 hrs. / / Last sample 1st injection past 12 hr. / Instrument blank 2nd injection past 12 hr. / Aroclor 1016/1260 standard 3rd injection past 12 hr. / Sample

EXHIBIT/SECTION(S)	MODIFICATION (S)
Aro-Item 26 Exhibit D – Aroclor: Section 10.3.2.1.1	The following Section: "The first 12 hours are counted from injection #13, not from injection #1. Samples may be injected until 12:00 hours have elapsed. All subsequent 12-hour periods are timed from the injection of the instrument blank that brackets the front end of the samples. If more than 12 hours elapse between the injections of two instrument blanks that bracket a 12-hour period in which samples or required blanks are analyzed, then the time between the injection of the instrument blank and the preceding sample may not exceed the length of one chromatographic run. While the 12-hour period may not be exceeded, the laboratory may run instrument blanks and standards more frequently, for instance, to accommodate staff working on 8-hour shifts. No more than 14 hours may elapse from the injection beginning the opening CCV (instrument blank) and the injection ending the closing CCV (Aroclor Standard)." is updated to: **"Injections #1 through #12 in Section 10.3.2.1 may be expanded to include all injections of initial calibration standards as specified in Option 2 and 3 in Section 9.2.3.5.** The first 12 hours are counted from injection #13, not from injection #1, **in the initial calibration sequence Option 1 detailed in Section 10.3.2.1. Alternately, the first 12 hours will be counted from the injection of the instrument blank of an opening CCV when performed immediately after completion of the initial calibration Options 2 and 3.** Samples may be injected until 12:00 hours have elapsed. All subsequent 12-hour periods are timed from the injection of the instrument blank that brackets the front end of the samples. If more than 12 hours elapse between the injections of two instrument blanks that bracket a 12-hour period in which samples or required blanks are analyzed, then the time between the injection of the instrument blank and the preceding sample may not exceed the length of one chromatographic run. While the 12-hour period may not be exceeded, the laboratory may run instrument blanks and standards more frequently, for instance, to accommodate staff working on 8-hour shifts. No more than 14 hours may elapse from the injection beginning the opening CCV (instrument blank) and the injection ending the closing CCV (Aroclor Standard)."

EXHIBIT/SECTION(S)	MODIFICATION (S)
Aro-Item 27 *Exhibit D – Aroclor: Section 10.3.3.2*	*The following:* *"If the **response** of the largest peak for any Aroclor is greater than the **response** of the same peak in the high-point standard in the initial calibration for both columns, then the sample must be diluted to have the **response** of the largest peak of the lower of the two column analyses be between the low and high calibration standards."* *Is updated to:* *"If the **concentration** of the largest peak for any Aroclor is greater than the **concentration** of the same peak in the high-point standard in the initial calibration for both columns (the largest peak on the second column may be a different peak), then the sample must be diluted to have the **concentration** of the largest peak of the lower of the two column analyses be between the low and high calibration standards."*
Aro-Item 28 *Exhibit D – Aroclor: Section 10.3.3.8*	The following: "Use the results of the original analysis to determine the approximate DF required to get the largest analyte peak (for the lower of the two column ***responses***) within the initial calibration range." Is updated to: "Use the results of the original analysis to determine the approximate DF required to get the largest analyte peak (for the lower of the two column ***concentrations***) within the initial calibration range."
Aro-Item 29 Exhibit D – Aroclor: Section 11.1.1.4	The following Section: "When an Aroclor other than 1016 or 1260 is detected in a sample, a valid five-point calibration curve specific to that Aroclor must be run, followed by reanalysis of the sample or appropriately diluted sample with the detected Aroclor present. The Mean Calibration Factor (CF) will be used to quantitate the analyte in the sample." is updated to: "When an Aroclor other than 1016 or 1260 is detected in a sample, **using a single point calibration,** a valid five point calibration of the specific Aroclor must be **performed**, followed by reanalysis of the sample or appropriately diluted sample **(if the sample concentration of Aroclor exceeded calibration)** with the Aroclor detected initially. **If a valid five-point calibration curve is available for an Aroclor other than 1016 or 1260, the Mean Calibration Factor ($\overline{CF}$) will be used for quantitation of the Aroclor in the sample, however, quantitation of the surrogate compounds using *surrogate data from* the initial five-point Aroclor 1016/1260 or from Aroclor 1016 if analyzed as a separate mixture.** **Note: An estimated concentration (reported with an "S" flag) of the initial detection for an Aroclor other than 1016 or 1260, using a single point calibration standard will be quantitated using the Calibration Factor (CF), of at least 3 major peaks, from the specific single point calibration standard. The surrogates will be quantitated using the initial five-point Aroclor 1016/1260 or from Aroclor 1016 if analyzed as a separate mixture.**

EXHIBIT/SECTION(S)	MODIFICATION (S)

Aro-Item 30

Exhibit D – Aroclor: Section 11.2.1.1.1, Equation 7

The equation is further expanded to allow for greater flexibility in the preparation and cleanup steps as follows:

$$\text{Concentration } \mu g/L = \left(\frac{A_x}{\overline{CF}}\right)\left(\frac{DF}{V_i}\right)\left(\frac{V_t}{V_o}\right)\left(\frac{CV_{out}}{CV_{in} \times E}\right)_1\left(\frac{CV_{out}}{CV_{in} \times E}\right)_2 \cdots \left(\frac{CV_{out}}{CV_{in} \times E}\right)_n$$

where,

A_x = Peak area or peak height of the compound to be measured.

$\overline{CF}$ = Mean Calibration Factor determined from the initial calibration for the compound to be measured, in area/ng.

DF = Dilution Factor.

V_i = Volume of extract injected in µL.

V_t = Volume of extract produced by the preparation process (extraction and concentration), and before cleanup, in µL.

V_o = Volume of the original water sample extracted in mL. Note: for instrument blanks and sulfur blanks assume a volume of 1000mL.

CV_{out} = Volume of extract produced by a cleanup process (cleanup and concentration), in µL.

CV_{in} = Volume of extract subjected to a cleanup process, in µL.

E = The efficiency of the cleanup process expressed as a fraction of material that passes through or is not mechanically lost during the cleanup step (e.g. 50% efficiency must be expressed as 0.50)

Aro-Item 31

Exhibit D – Aroclor: Section 11.2.1.2.1, Equation 9

The equation is further expanded to allow for greater flexibility in the preparation and cleanup steps as follows:

$$\text{Concentration } \mu g/kg = \left(\frac{A_x}{\overline{CF}}\right)\left(\frac{DF}{V_i}\right)\left(\frac{V_t}{W_t \times D}\right)\left(\frac{CV_{out}}{CV_{in} \times E}\right)_1\left(\frac{CV_{out}}{CV_{in} \times E}\right)_2 \cdots \left(\frac{CV_{out}}{CV_{in} \times E}\right)_n$$

where,

***A_x, $\overline{CF}$, DF, V_i, V_t, CV_{out}, CV_{in}, and E** are the same as Equation 7 above.*

W_t = Weight of the original soil sample extracted in g.

$$D = \frac{100 - \%\text{Moisture}}{100}$$

EXHIBIT/SECTION(S)	MODIFICATION (S)
Aro-Item 32 Exhibit D – Aroclor: Section 11.2.2	The following Section: "Target Compounds The quantitation of Aroclors must be accomplished by comparing the heights or the areas of each of a minimum of 3 major peaks of the Aroclor in the sample with the $\overline{CF}$ for the same peaks established during the specific five-point calibration. The concentration of multi-component analytes is calculated by using Equations 7 and 9, where A_x is the area for each of the major peaks of the Aroclor. The concentration of each peak is determined and then a mean concentration for a minimum of 3 major peaks is determined on each column." is updated to: "Target Compounds **Except for an estimated value reported for an Aroclor other than 1016 or 1260,** The quantitation of Aroclors must be accomplished by comparing the heights or the areas of each of a minimum of 3 major peaks of the Aroclor in the sample with the $\overline{CF}$ for the same peaks established during the specific five-point calibration. The concentration of multi-component analytes is calculated by using Equations 7 and 9, where A_x is the area for each of the major peaks of the Aroclor. The concentration of each peak is determined and then a mean concentration for a minimum of 3 major peaks is determined on each column."
Aro-Item 33 Exhibit D – Aroclor: Section 11.2.2.1	The following Section: "Note that the $\overline{CF}$s used for the quantitation of Aroclors are the $\overline{CF}$s from the concentration of the specific five-point calibration." is updated to: **"To quantitate and report the estimated concentration of an Aroclor other than 1016 or 1260, use the Calibration Factor (CF) for a minimum of 3 major peaks, from the single point Aroclor calibration standard used for the Aroclor pattern recognition. It will be necessary to substitute the single Calibration Factor (CF) for the Mean CF ($\overline{CF}$) in Equations 7, 8, 9 and 10.** **Note: The** $\overline{CF}$s used for the quantitation of **target** Aroclors are the $\overline{CF}$s from the concentration of the specific five-point calibration."

EXHIBIT/SECTION(S)	MODIFICATION (S)

Aro-Item 34

Exhibit D – Aroclor: Section 11.2.3.1, Equation 12

The equation is further expanded to allow for greater flexibility in the preparation and cleanup steps as follows:

EQ. 12 Adjusted CRQL Calculation for Water Samples

$$\text{Adjusted CRQL} = (\text{Contract CRQL})\left(\frac{V_x}{V_o}\right)\left(\frac{V_t}{V_y}\right)(DF)\left(\frac{CV_{out}}{CV_{in} \times E}\right)_1\left(\frac{CV_{out}}{CV_{in} \times E}\right)_2 \cdots \left(\frac{CV_{out}}{CV_{in} \times E}\right)_n$$

where,

Contract CRQL	=	**The CRQL value reported in Exhibit C – Aroclors (µg/L).**
V_x	=	**Contract sample volume (1000 mL).**
V_o	=	**Volume of water extracted in mL. Note: for instrument and sulfur blanks assume a volume of 1000mL.**
V_t	=	**Volume of water *concentrated extract* in µL.**
V_y	=	**Contract concentrated extract volume (10,000 µL).**
DF	=	**Dilution Factor.**
CV_{out}	=	**Volume of extract produced by a cleanup process (cleanup and concentration), in µL.**
CV_{in}	=	**Volume of extract subjected to a cleanup process, in µL.**
E	=	**The efficiency of the cleanup process expressed as a fraction of material that passes through or is not mechanically lost during the cleanup step (e.g. 50% efficiency must be expressed as 0.50).**

EXHIBIT/SECTION(S)	MODIFICATION (S)
Aro-Item 35 Exhibit D – Aroclor: Section 11.2.3.2 Equation 13 The equation is further expanded to allow for greater flexibility in the preparation and cleanup steps as follows: **EQ. 13 Adjusted CRQL Calculation for Soil/Sediment Samples** $$\text{Adjusted CRQL} = (\text{Contract CRQL})\left(\frac{W_x}{W_s \times D}\right)\left(\frac{V_t}{V_y}\right)(DF)\left(\frac{CV_{out}}{CV_{in} \times E}\right)_1\left(\frac{CV_{out}}{CV_{in} \times E}\right)_2 \cdots \left(\frac{CV_{out}}{CV_{in} \times E}\right)_n$$ **where,** **Contract CRQL = The CRQL value reported in Exhibit C – Aroclors (µg/Kg).** **W_x = Contract sample weight (30 g).** **W_s = Weight of sample extracted in grams (g).** **D = $\frac{100 - \%\text{Moisture}}{100}$** **$V_t$ = Volume of the concentrated extract in µL.** **V_y = Contract concentrated extract volume (10,000 µL).** **DF = Dilution Factor.** **CV_{out} = Volume of extract produced by a cleanup process (cleanup and concentration), in µL.** **CV_{in} = Volume of extract subjected to a cleanup process, in µL.** **E = The efficiency of the cleanup process expressed as a fraction of material that passes through or is not mechanically lost during the cleanup step (e.g. 50% efficiency must be expressed as 0.50).**	
Aro-Item 36 Exhibit D – Aroclor: Section 11.2.4	The following Section : "The concentrations for surrogate compounds can be calculated by using Equation 7 (for waters) and Equation 9 (for soils) and the $\overline{CF}$ from the most recent initial calibration." is updated to: "The concentrations for surrogate compounds can be calculated by using Equation 7 (for waters) and Equation 9 (for soils) and the $\overline{CF}$ from **a valid initial five-point calibration of Aroclor 1016/1260 or from Aroclor 1016 if analyzed as a separate mixture."**

EXHIBIT/SECTION(S)	MODIFICATION (S)
Aro-Item 37 Exhibit D – Aroclor: Section 11.3.5	The following Section: "The RT for each of the surrogates must be within the RT window (Section 9.2.4.3) for both GC columns." is updated to: **"Surrogate compounds Retention Time (RT) must be compared to the window established during a valid initial five-point calibration of Aroclor 1016/1260 or from Aroclor 1016 if analyzed as a separate mixture.** The RT for each of the surrogates must be within the RT window (Section 9.2.4.3) for both GC columns."
Aro-Item 38 Exhibit D – Aroclor: Section 12.3.4.2	The following Section: "Calculate individual compound recoveries of the LCS using Equation 14" is updated to: "Calculate individual compound recoveries of the LCS using **Equation 15**".